COTTON

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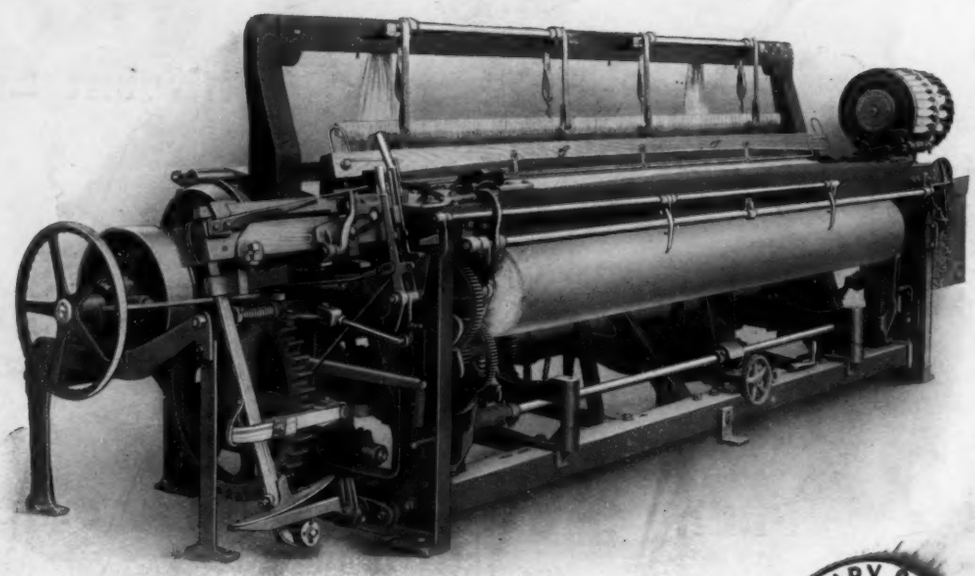

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Alphabetical Index to Advertisers, page 158 Table of Contents, page 51 Classified Index to Advertisers, page 159

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COTTON

Published Monthly by

W. R. C. Smith Publishing Co., Dalton and Atlanta, Ga.

L. L. ARNOLD, Editor.

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When changing address, *notify us*, not the postmaster. Always give the old address as well as the new one.

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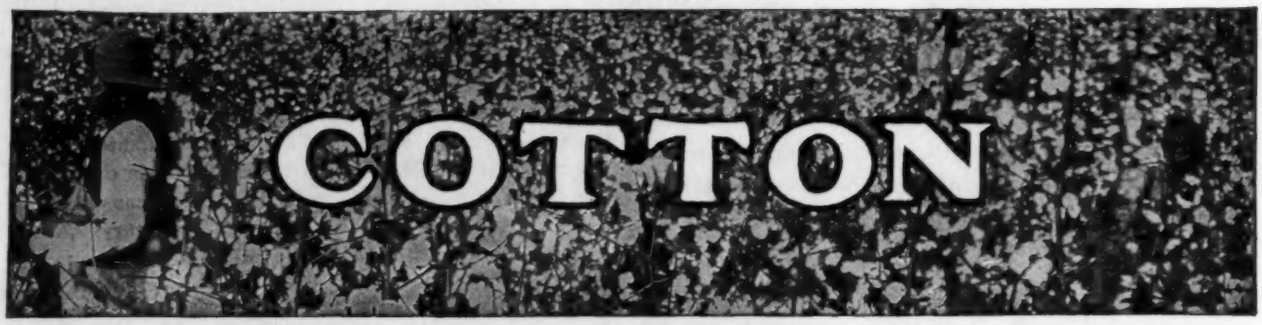


May, Nineteen Sixteen.

Forewarned.

It is sometimes difficult to look forward, through and beyond the prosperous present, to the lean period that is bound to come sometime in the future. The human mind and heart is naturally optimistic, and Americans, more than any other people, have a tendency to let the future take care of itself.

The new officers of the American Cotton Manufacturers' Association being cognizant of this national trend, sounded a distinct note of warning in their brief speeches of acceptance.

Vice-President Ceasar Cone reminded his hearers that whenever a long stretch of smoooth road was encountered, a muddy stretch was generally found just beyond, and while he said he did not wish to pose as a "calamity howler," he did earnestly recommend that these usual and average business and market conditions, as indicated by history and experience, be given thoughtful consideration.

Fuller E. Callaway, the new chairman of the Board of Governors, said he would try to give his hearers an outline of the future as he saw it. He said: "We are growing richer and richer, and conditions are getting better each day the war lasts. Goods are getting scarcer on account of the foreign mills having stopped, that formerly supplied a part of the world. America," he continued, "is about the only country left to supply the world with manufactured textiles. We must supply South America, Asia and Africa, and the longer the war lasts, the scarcer goods will get. Moreover, it is always true that when goods get scarce, and there are three buyers for two sellers, goods will sell higher. I've noticed recently that when a seller went into the market, they took everything he had to offer. There was no picking and choosing. That, to my mind, signifies that the price is too low. Because of these facts and the increased cost of manufacture, my suggestion is that in making your quotations it would be a good idea to add about one to two cents a pound to your prices for the next six or eight months.

"I would also suggest on account of the fact of so much business being on hand now, that you bear in mind the gulch we are approaching and that is due to arrive owing to the flood of cheap European goods we will get later. You might add one or two cents a pound to cover that.

"I believe that after the war is over, our business for six months or a year will probably be fair, but after that time look out for the gulch, because, on account of the high cost of manufacturing and the large volume of goods we are making here, when Europe gets to making goods, we are going to have cotton going up and goods going down—and you had better add one to two cents a pound for that.

"Get all you can for your goods now, while the selling is good. Put it in a savings bank and don't let your board of directors know you have it, or they will declare a war dividend. As long as the war lasts you will get it, but if you don't put it in a bank you will 'bust' when peace comes. Save it, and when the crash comes, caused by the flood of cheap goods from Europe, you will be prepared to stand it. You can use it to build a concrete viaduct over the gulch. Everybody is making money *now*, but we will need it after the war.

"It is my advice to make hay while the sun shines. There is plenty for everyone in our line of business. I don't know anybody that cannot get a job. On all the recent quotations you have made, you have sold. There is no doubt that after the war is over and the people in Europe begin to start their factories, there will be a great demand for cotton, and, as I said before, we want to make the best of everything while it lasts, so that when the crash comes we will be prepared. Therefore, don't wait next fall for cotton to go down to seven cents—buy some at ten cents and eleven cents, and help the poor farmer out."

While Mr. Callaway expressed his thoughts in his own inimitable, whimsical style and created much laughter and applause, his hearers well knew that forecasts of this character made by him have an unfortunate habit of coming true. It will be well for all textile manufacturers to give careful thought to the facts he has outlined.

Forewarned is forearmed.

Waste.

The waste product of the sawmills of this country, including that fed to the furnaces as fuel, is estimated to be thirty-six million cords per year. This sounds extravagant to a cotton mill man. Unfortunately we are frequently unable to see our own wastes and would doubtless be surprised and perhaps incensed at a stranger who took the liberty to point out what he saw.

Some mills still adhere to the old-fashioned, insanitary backyard privy and in keeping with such methods, naturally neglect to furnish toilet paper for the operatives. It would seem that twelve cent cotton is considered less expensive by those in charge.

If your mill is in this class, perhaps you had better investigate and stop this wasteful practice before someone with a penchant for mathematics estimates the number of bales of cotton wasted in this manner each year.

Side-Stepping Responsibility.

The following little classic appeared on the front page of a recent number of The Right Way, a small magazine published by the Central of Georgia Railway Company for its employees. It is so applicable to all kinds of work, including cotton manufacturing that COTTON reproduces it in full.

"This is a topic of general interest, we think. The inclination to shift responsibility to the other fellow seems to be inherent. We have heard it called, in a slangy way, 'ducking responsibility' or "letting George do it.'

"In railroad life we too frequently see efforts on the part of some to evade responsibility they could profitably assume—to place upon the shoulders of fellow employees duties that appear to be a little out of the ordinary, a bit difficult or hazardous; or that require some thought and investigation, and, perhaps, a slight sacrifice in the way of work after regular hours. Most of these persons seem to treat their brains with extraordinary consideration, try to shield them from every effort, every strain. They shrink from responsibility, nothing is more irksome. Their brains receive so little exercise in the way of handling matters other than those of little importance that when, occasionally, their possessors are called upon to perform a task unusual or a little above their mental plane, failure often results. Strange to say, these same persons are quick to criticise their superiors and express resentment because they are ignored when changes involving promotions are made.

"Some evade responsibility because of self-distrust; others because they lack true courage, they are afraid to take risk of error, fearing they will make a mistake and be censured or jeopardize their positions. Another class side-step responsibility because of indolence, indifference or disloyalty, while some shrink from the assumption of more important tasks on account of knowing their deficiencies, mental or otherwise.

"The timid, by perseverence and exercise of will power, can increase their faith in themselves and overcome their failing; those avoiding responsibility because of the knowledge of their unfitness can, by study and the determination to improve, overcome their weakness and eventually prove their worth; but the indolent, the indifferent, the disloyal, and those lacking true courage, are sure to remain innocuous or disappear from the organization.

"The employee who is anxious to learn something about the other fellow's work,who is always willing to assist in putting through any project for the advancement of the company's interest, the sort of fellow who says 'May I help;' 'Let me go,' or 'I can do it,' his name will surely some day be found around the top of the pay roll.

"What is termed 'Side-stepping responsibility' should not be confused with the ethical and proper course of putting aside minor responsibilities in order to assume greater ones—which policy is in the line of progress and is considered an evidence of executive ability. A catchy definition of executive ability is.—*'Find a man who can do the work and see that he does it.'*"

Resolutions to Dr. Woodbury.

At a meeting of the Board of Government of The National Association of Cotton Manufacturers, held Friday afternoon, March 24, Mr. Charles H. Fish was elected acting secretary to fill temporarily the vacancy caused by the death of Dr. Charles J. H. Woodbury, secretary. At the same meeting the following resolutions were unanimously adopted:

"The Board of Government desires to express its profound sorrow at the death of the secretary of the association, Dr. Charles J. H. Woodbury.

"This association, and the cotton industry in general, owes to Dr. Woodbury a debt which is unmeasurable. Devoting himself in early life to the problems of mill construction and fire protection, he has, during all his official connection with the association, of upwards of twenty-five years, been the leader in all movements tending to improve the processes and methods of textile mills. Under the guidance of his trained, scientific mind, the transactions of the association have recorded in the fullest degree the development of the cotton industry in its technical, historical, and social aspects, and they stand as a worthy monument to his memory.

"To Dr. Woodbury more than to any other one man is due the continued growth and prosperity of the association, and its value as a representative of the textile trade. In spite of severe physical disabilities during the last period, he has served its interests with fidelity and devotion, and it may be said with truth that he laid down his life in its service.

"As individuals, we shall miss him, with his kindly personality, his unfailing courtesy, his broad culture, and his remarkable fund of information.

"The Board of Government of The National Association of Cotton Manufacturers hereby resolve, as a tribute of affection and gratitude, that this resolution be entered upon its records, and that copies be sent to the bereaved family, to affiliated associations, and to the daily press."

Annual Meeting of the Georgia Cotton Manufacturers' Association.

The Georgia Cotton Manufacturers' Association will hold its annual convention and dinner at the Piedmont Hotel, Atlanta, Tuesday, May 30th. The program for this meeting will be one of unusual interest, and arrangements have been made for suitable speakers. A large attendance is anticipated, and those who can arrange to be present should surely attend.

STATEMENT

of the ownership, management, etc., of COTTON, published monthly at Dalton, Ga., required by the act of August 24, 1912:

Editor, L. L. Arnold, Atlanta, Ga.

Business Manager, W. J. Rooke, Atlanta, Ga.

Publisher, W. R. C. Smith Publishing Company, Dalton, Ga., and Atlanta, Ga.

Owners—List of stockholders holding 1 per cent or more of total amount of stock: W. R. C. Smith, Atlanta, Ga.; J. Willett Smith, Hornell, N. Y.; W. S. Cushion, Cleveland, Ohio; O. A. Sharpless, Atlanta, Ga.; H. H. Kelley, Atlanta, Ga.; J. C. Martin, Atlanta, Ga.; L. L. Arnold, Atlanta, Ga.

There are no bondholders, mortgagees or other security holders.

W. R. C. SMITH PUBLISHING COMPANY,
O. A. Sharpless, Secretary.

Sworn to and subscribed before me this 23rd day of March, 1916.

(Seal) JOHN C. MARTIN,
Notary Public.

(My commission expires June 24, 1916.)

Cotton Manufacturers Convene at Atlanta

"The best convention since Philadelphia," was an expression heard frequently during the 20th annual meeting of the American Cotton Manufacturers Association which was held in Atlanta on the 4th and 5th of April. The headquarters was at the Piedmont Hotel which was soon filled to capacity. The Ansley and The Winecoff, which were located nearby, handled the overflow, although both were taxed to capacity.

It was easy to deduce from the number of advance reservations, that the attendance was to be the largest for several years. The registrations numbered over 800 and fully that many availed themselves of the opportunity to attend a real Southern barbecue, Atlanta style.

One of the pleasing minor features of the convention was the presentation to President Scott Maxwell of a "Buick Six" with driver for his personal use while in Atlanta. This car, which was liberally decorated with flags, carried on the radiator a small sign which read, "Private car of President Scott Maxwell of the American Cotton Manufacturers Association." President Maxwell expressed great personal satisfaction at the thoughtfulness of the committee in supplying him with this as well as other conveniences of home during his stay in the city.

Convention Headquarters at the Piedmont Hotel.

The weather man was kindly disposed and consented to withold April showers and other inclement weather so frequently prevalent during the early days of April.

Early delegates began to arrive on Sunday, April 2nd and by Monday noon the lobby at the Piedmont was crowded with mill and machinery men renewing old acquaintances and comparing business notes.

President Maxwell and party arrived on the Birmingham Special Monday afternoon and the New York and New Orleans Limited brought the largest single party arriving about 5 o'clock the same afternoon over the Southern Railway. This party originated away up in Maine, J. E. Coburn of the Androscoggin Mills at Lewiston and E. L. Morrill of the Pepperill Mfg. Co., at Biddeford probably representing the extreme eastern points. To this small beginning additions were made from Boston and other points in Massachusetts, Rhode Island, Connecticut, New York, New Jersey and Pennsylvania. Naturally the largest number came from the Carolinas, but the sum total was a jolly and enthusiastic crowd that poured up the stairs at the Atlanta terminal station in a seemingly endless line and in numbers that overtaxed the transportation accomodations of the local Greeting Committee.

Southern Train No. 37 Bringing the Northern Delegation to Atlanta.

Monday evening President Maxwell was entertained at a private dinner given in his honor by Mr. and Mrs. L. L. Arnold at their residence in Atlanta, and many other private affairs were "pulled off" in clubs and at homes.

Arrangements for entertaining the visiting ladies had been perfected and a committee of 26 Atlanta ladies met at the Piedmont at 10:30 a. m.

Tuesday Morning.

and carried the visitors on an extended automobile tour of the city and its environs, stopping at several of the country clubs and ending at the Druid Hills Golf Club where the men joined them after the morning session.

Promptly at 10 o'clock President Maxwell called the meeting to order in the ball room at the Piedmont, Mayor James G. Woodward of Atlanta delivering the address of welcome for the state and city. This address was given an able response by Stuart W. Cramer of Charlotte, N. C.

These addresses were followed by announcements concerning the entertainment features by Chairman A. F. Johnson of the local entertainment committee and Cousin Fred Houser of the Atlanta Convention Bureau. Then came the

President's Address

by President Scott Maxwell. President Maxwell said:

"The occurrences of the past year have made for the discrediting of many prophets; the unexpected has been the rule, and what appeared in the beginning to be a year of uncertainties and slow business, developed into a brisk and firm business condition. The war had built a tariff wall around the industries of these United States; it is possibly the highest tariff in our history, it has effectually stopped the wholesale importation of foreign goods that was threatening disaster to the cotton manufacturers of this country when the European war started. The cotton manufacturers have not received any large war orders, but war orders for other materials needed for the armies have so stimulated all lines of business that the purchasing powers of our domestic markets have been increased to such a degree that they are now, and have been for some months past, readily taking the full output of all our spindles and looms.

"Thoughtful men, recalling demoralized conditions in the summer of 1914, cannot refrain from looking ahead with anxiety. Peace, eventually, is bound to come in Europe; when it does come antebullum conditions will recur with aggravated symptoms. The United States will be the best world market to sell in, the worst to buy from. Belligerent nations will devote unusual energies to the restoration of industry. Private capital will, as never before, enjoy the fostering care of government. Only in this land does the individualistic system of business prevail. In Europe, a new socialized democracy has taken complete charge of manufacturing, mining, and transportation, through the collective principle. This departure was brought about by the stern necessities of war. The necessities of finance will continue, then, until commerce and credit have been rehabilitated. Some say the old order will never be restored. In the fierce competition that is certain to follow, it may well be doubted if our system can hold out. Assuredly trouble is ahead for us unless capital in America is treated with greater intelligence by the government.

"Mills which produce colored goods only, have not had an easy time in providing a supply of dyestuff; and the situation regarding dyestuff supplies is steadily growing more difficult. Many colors are impossible to obtain and lines of goods dependent upon these special colors have been withdrawn from the markets. The obtainable dyes, with the exception of the small quantities now being manufactured in this country, are the accumulated German dyes that have been collected by speculators from every available source and country on the globe, and are being offered to manufacturers at about 1000 per cent increase in prices that were current before the war, frequently with the additions of adulterants that reduce their actual value to not over 30 per cent of their original value.

"There is a bill before Congress known as the Hill Bill, H. R. 702, which is intended to protect the dyestuff industry, but it has not yet been reported out of the Committee of Ways and Means. There seems to be an opinion prevalent that it will not be reported out, but will be included in a "General Bill" for some protection, viz.: A duty on dyestuff sufficient to enable American manufacturers to compete with the German dyestuff industry when the war is ended, but it appears as if the war will be over before Congress decides upon any line of action. In the meantime, we see articles with captions similar to the following: 'Exporters Compelled to Turn Down Orders.' Many inquiries come to nothing, through lack of dyestuffs, etc., which emphasize most emphatically the need of a non-partisan tariff board to prepare the necessary data so that Congress could act quickly and advisedly in an emergency, the present dyestuff situation being a fair example.

"The Keating-Owen Child Labor Bill has recently passed the House and is now pending in the Senate. It is the opinion of many who have visited Washington during the hearings on this bill, that it will pass. You have all, no doubt, familiarized yourselves with the contents of this bill, so I will only mention in passing that the main objection to the bill is that it deprives the states of the right to regulate their internal affairs, and places federal inspectors in all states to regulate the hours and at what age people shall be allowed to work in certain occupations. It has some exceptions, however, it does not afford any relief to the 5,000 children between the ages of 7 and 15 years employed for 12 hours each day in the sugar beet fields of Colorado, but we understand that some of the good people of Colorado are trying to make the working conditions, hours, etc., better for children under the age of 10 years.

"The press, in editorials and cartoons, has the habit of representing manufacturers as the consistent enemies of any and all legislation designed, though oft times unwisely, to ameliorate working conditions among employees. The truth is that the men at the textile helm have done more in this direction than legislation ever has or can do. These men do not become barbarians or slave drivers, losing their sense of justice, and sympathy and kindness, when they go on the salary roll of a cotton mill. In all of these elements that go to make up the well balanced character, we will not dodge comparison with the folks who, more than ourselves, not only inform the left hand what the right hand doeth, but also stand upon legislative house tops to inform all other hands.

"It is not proper for me to violate this injunction of the Good Book. It would be immodest, too, to here refer to our welfare work. There are no unions in Southern cotton mills, this is mainly because labor is too contented. Let that record speak for itself.

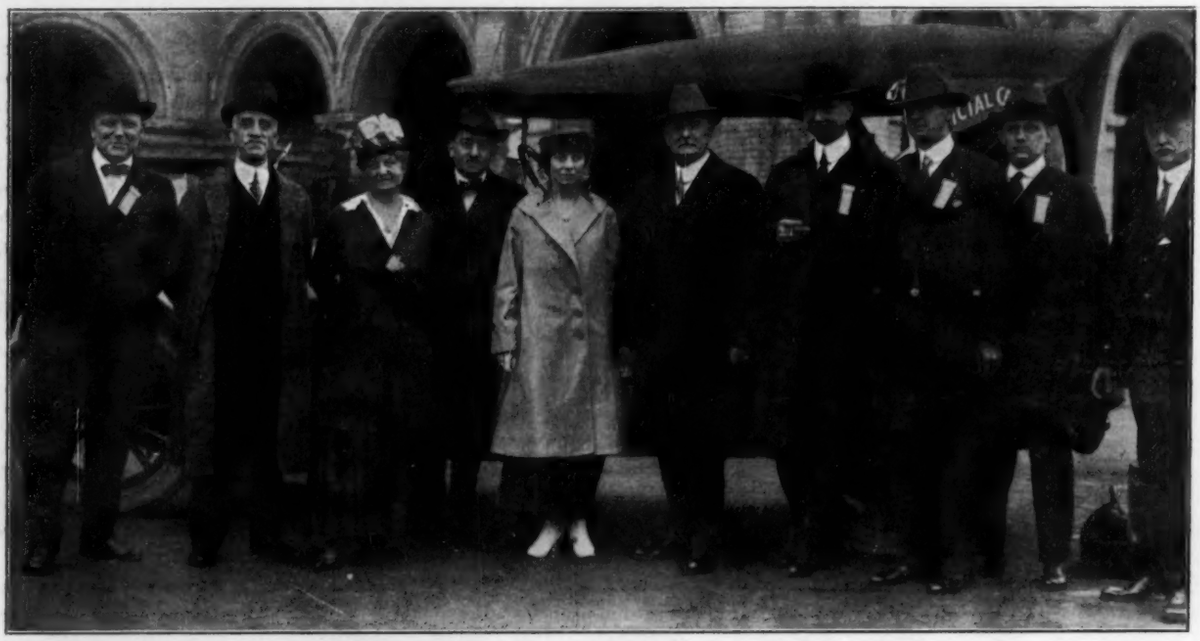
"The cotton situation seems to be a question of the ability of the holders of cotton to carry the surplus until such time as the world will need it. From present figures on consumption and export, it would appear that the carry over into the next crop will be about three million bales, American. To expect the countries now at war to buy and store surplus cotton at prices now quoted in those markets, is to expect the impossible. The surplus must be financed by the people now holding, and under these conditions I do not expect much change in the present prices, unless the acreage should be very materially decreased, which I do not believe will be the case, or very unfavorable growing conditions during the early months for the new crop, which is possible. From present reports, it would seem that an increase in cotton acreage will be the rule.

"The idea of marketing cotton slowly made much headway during the fall of 1915. To a point never before witnessed, except when a virtual blockade existed the year before, cotton was warehoused and held at interior points by producer and country merchant. This course was encouraged by certain government officials who held out the assurance of high prices after Christmas. Performances did not square with promise. The promise should never have been made. It ignored the true principle behind the plan. Cotton should be marketed slowly to establish the price the year around, to better the price of the distressed cotton that must go to market in the fall. Heretofore, May prices have been generally higher than November. The differences in available supplies going to market determined this. It resulted in loss to the producers. But if there is a substantial part of the crop carried by the producers until spring, the reason for the usual spring rise ceases to exist so a more uniform succession of prices will be quoted throughout the entire season. Opinion is widespread that we manufacturers are opposed to marketing cotton slowly. This is a mistaken opinion. It has, on the contrary, so many advantages, no less to ourselves than to the farmer, that we should and do give it our hearty approval.

"Open price competition was quite freely discussed at our Memphis meeting last year. As a result of those discussions, a get-together-meeting was held by the National Council in New York, at which meeting many selling houses were represented. The meeting was most cordial and informal. Open price competition was the theme of the evening, and some very interesting statements in support of open prices were made. This meeting appointed Committees to work out plans for trying out the open price idea in the sale of cotton goods. The obstacles to be met and overcome are many and various, but the hope of final success seemed to inspire all present with the belief that the object sought would finally be attained.

"In closing I desire to express to the officers and members of this association, my appreciation and thanks for their kindly consideration and hearty support."

As the president closed his address President Albert Greene Duncan of the National Association made a happy little talk and presented retiring President Maxwell with the gold association medal for service.



GREETING PRESIDENT MAXWELL AND PARTY.

Reading left to right: Secretary Fred Houser, Atlanta Convention Bureau; President T. H. Rennie of the Pell City (Ala.) Cotton Mills; Mrs. Rennie; MacLain Tilton; Miss Lois Rennie; President Scott Maxwell; Chairman A. F. Johnson of the Entertainment Commtitee and President of the Exposition Cotton Mills; L. L. Arnold, Editor of COTTON; Frank G. North, Atlanta Representative Arnold, Hoffman & Co.; and E. Chappell, Southern Agent H. & B. American Machine Co.

Then came a very interesting address on

American Branch Banks

in Foreign Countries and their part in developing export trade, by Beverly D. Harris, vice-president of the National City Bank of New York. Mr. Harris said in part:

We do not know, nor is it possible to forecast with any degree of finality or accuracy, the political, economic, commercial and financial consequences of immeasurably the greatest war in all history, now raging in Europe; what geographical changes may result or where the world's balance of power may finally rest; what political or trade combinations, treaties and tariffs, may exist in the future; what new channels of trade may be opened up among the nations of the world; or in methods of production and dis-

tribution what competitive conditions we may encounter later.

One thing I think I may safely say, however, is that from any point of view it is evident that this country, through force of circumstances, has been projected into a position of the most far-reaching importance in the affairs of the world. Great opportunities, great responsibilities, and possible dangers, lie ahead of us. Very properly under existing conditions the attention of the country is focused upon the need for military preparedness. Of equal importance is commercial preparedness, industrial and economic organization, and a close study of international relationships of the future. It is a time for international thinking; statesmanship in the largest sense of the word; firm policies of government; advanced thought and competent leadership in all departments—financial, industrial, commercial, as well as political. As to how far we will control the situation ahead or the situation will control us, depends to the greatest extent upon the wisdom and farsightedness of the nation in meeting the impending problems of the future.

It would not be within the scope or province of this address to attempt to discuss the economic conditions which for a considerable period of time prior to the present situation caused by the events of the European war, made it apparent that if this country is to continue to grow in population, wealth and influence, and occupy the position as a world power which its vast wealth, resources, productiveness and natural advantages of location should command, it must inevitably extend its foreign commerce. Thoughtful students of these problems have come to realize that our capacity for production has been fast increasing beyond local consumption; that our national prosperity depends upon the expansion, development and prosperity of our manufacturing industries; that in order to keep our industrial organizations fully employed at the highest degree of efficiency and on a profitable basis, it has become increasingly necessary to seek foreign markets. There has been a growing realization that we have in recent years been going through a period of change; that we are passing from the period when as an undeveloped country our energies were closely concentrated to the development of our own resources. We have arrived at a point of advanced development and a position where, looking to the future, our national welfare will increasingly require new outlets for our manufacture in other countries less developed. Profiting by the lessons of history we cannot escape the conclusion that the commercial greatness of a country is the measure of its prosperity, power, and influence; that the nation which is able to utilize its natural resources and manufacture its raw materials into finished products of high commercial value, with economy, efficiency and full employment to labor, and technical skill in production, is establishing the surest permanent foundation of national wealth and prosperity. The balance of trade through exports protects our gold supply, makes us a creditor nation, and where the value of the exports represents largely skill in manufactures, the process is building up the country's national wealth, in contradistinction to the export of raw commodities, which bring in a return at the expense of a drain on the country's natural resources.

When we export a bushel of wheat, it carries with it twenty-seven cents' worth of phosphorous; a bushel of corn fifteen cents' worth; a pound of cotton three cents' worth. This is capitalizing our soil fertility at the expense of our ultimate resources.

For the fiscal year 1914,—which ended just before the beginning of the war and therefore during the period of normal conditions—of the total of our exports, 18 per cent was of foodstuffs, as against 44 per cent in 1894, whereas manufactured products formed 47 per cent of our exports, as against 23 per cent in 1894. The value of the products of our factories increased 81 per cent from 1890 to 1910, and the number of persons employed in the United States in manufacturing and mechanical pursuits increased 90 per cent in the period 1890 to 1910, while the number of persons engaged in agricultural pursuits increased but 37 per cent in the same period. This indicates a tendency in the right direction, which national policies should foster and encourage.

Few of us realize fully the tremendous potential resources and energies of this country. Few of us fully comprehend the tremendous domestic and foreign commerce to which the United States has already attained. The total estimated value of the domestic and foreign commerce of the United States for 1914 is approximately 44 billions of dollars. This means all merchandise sold once and at wholesale prices. Of this total approximately twenty billions is represented by manufactures. But while our manufacturing capacity, as the above figures indicate, has so greatly increased, and billions of dollars of new capital have been employed in manufacturing lines in recent years, figures on our foreign commerce are not proportionate and are disappointing. Out of a total of forty billions of dollars in the year mentioned, our imports consisted of $1,894,000,000, and our exports $2,329,000'000, a total of $4,223,000,000, or less than 10 per cent of our total commerce. Of the exports of domestic products, crude material for foreign manufacture form 34 per cent, foodstuffs 18.5 per cent, manufactures 47.2 per cent. From this it will be seen our exports are not as large as they should be, and that they have been in too large proportion of crude or semi-crude material, with comparatively little labor in it, as for instance, copper and iron, in pigs and bars, raw cotton and the like, rather than in manufactures representing the value of skilled labor and better profits in the selling price.

"We sell cotten at twelve cents a pound, with hardly any labor in it—we buy it back from the thrifty Swiss at $40 a pound, in fine handkerchiefs—all labor." Of course it is only proper to say our labor conditions have not been those of Europe, and that as a practical proposition many comparisions of this character might be regarded as extreme, but in theory and principle, and so far as may be capable of demonstration that our forces may be organized to successfully meet foreign competition and foreign markets, the large and outstanding considerations at the present time are that our continued welfare is largely concerned in the scientific development of our manufacturing and industrial resources, and in the extension of our foreign commerce, and particularly the sale of manufactured goods. It is not sufficient that we are above all other nations favored with great natural advantages of location and materials, water-power, fuel, capital. In organization, efficiency, economy of production, cheap labor, cost of living, in the lack of mercantile marine, the unfavorable operation of some of our laws, and in other respects, we find ourselves

under serious disadvantages; and among the most serious disadvantages under which we have labored in the past has been a less efficient financial, banking and credit system, in comparison with other great nations. It was providential that the Federal Reserve Banking System came into being when it did, for while it cannot yet be regarded as perfect in all respects and in the process of time will undoubtedly be changed, elaborated and modified in various respects, the basis is there for a system suitable to our needs, and it has so far afforded us a degree of safety and protection which has been invaluable under the extraordinary conditions following the outbreak of hostilities in Europe, and it has given us a means of extending our banking operations into foreign lands, without which our foreign commerce would always been under the most serious handicap.

As soon as it was possible under our laws to do so, the National City Bank devoted the energies of its organization actively to a comprehensive plan having in view the organization of branch banks at principal points throughout the world, and with a view to making these branches not merely a source of profit to itself, and a convenience in furthering routine business under existing conditions, but with the larger and more comprehensive object of furnishing to all legitimate American interests a valuable service, as a forerunner and explorer in the development of our foreign trade. Our attention was first directed to South and Central America and to the Orient as the most promising fields for new business and at the present time we have in active operation direct branches at Buenos Aires, Argentina; Rio de Janeiro, Montevideo, Uruguay; and Sao Paulo, Brazil; and Havana, Cuba, and through purchase of the control of the International Banking Corporation by National City Bank interests, branches of the latter at Bombay, Colon, London, Calcutta, Hankow, Manila, Shanghai, Canton, Hong Kong, Panama, Singapore, Cuba, Kobe, Peking, and Yokahama. Recognizing the probabilities in the future of largely increased trade relations with Russia, we have also organized a Russian Division with agencies in London and Petrograd.

FULLER E. CALLAWAY, CHAIRMAN OF THE BOARD OF GOVERNORS.

Furthering the plan outlined, we have established a foreign trade department, and for this purpose we have enlisted on the staff of this department trade experts who will undertake to study in a thorough and comprehensive manner the opportunities in foreign markets. This department will devote its energies, also, to analysis of methods of production and sale, conditions of competition which must be met, and to the determination of all those things which may exist as impediments to our trade. This department, working in close concert with manufacturing experts

PRESIDENT ELECT JOHN A. LAW.

is qualified to furnish to manufacturers valuable suggestions and practical aid in connection with the problems of their export business. Trade experts from this department have been sent out to points where branches have been established for the purpose of making a close study of conditions. A special magazine "The Americas" has been established, and is being maintained, devoted to commercial education and the promotion of commerce and good will between the nations of the Americas. An important feature of the publication is a list of special trade opportunities. This magazine is circulated without charge to customers and friends of the bank. In the course of the progress of this work, several of our officers have given to the public through the medium of addresses and specially prepared articles the benefit of their investigations, upon our foreign trade.

Through the medium of foreign branches it is designed to furnish a comprehensive commercial service, and through this agency to furnish to American manufacturers personal and confidential representation. Under these plans credit bureas will be maintained under the direction of experienced credit men having charge of the credit investigations of each branch. Credit information as it is compiled will be sent in duplicate to the New York office, which, through this means, within a reasonable time, will be in a position to furnish reliable credit information to American manufacturers.

Through these branches we issue letters of Credit and Traveler's Checks available throughout the world, and cash Letters of Credit and Traveler's Checks of domestic and foreign banks; open accounts for bankers and merchants throughout the world, and buy and sell drafts and cable transfers on every important city on the globe; buy and sell acceptances; financing exports and imports; exchange foreign money; issue commercial letters of credit to facilitate the importation and exportation of merchandise; cash drafts drawn against commercial letters of credit; advise upon foreign exchange problems for customers; procure Consular documents; arrange for clearings through United States customhouses, and reshipments of goods; assist in the disposal of goods in case drawee of bill refuses payment; or attend to details of the proper warehousing of the goods; send code cable messages for manufacturers who have no code; provide for interpreters; assist salesmen and travelers during their stay in foreign countries; and make our service as comprehensive and helpful as possible.

One of the greatest problems encountered in establishing this comprehensive branch bank service has been the difficulty of securing a sufficient number of trained and expert men to give the organization the necessary and desired efficiency. To meet this situation successfully we found it necessary to establish an educational system in the bank for the special training of men for foreign service. A selected number of graduates from America's leading universities are being trained for this service, and as a result of closer cooperation between the bank and several universities, it is expected an increasing number of selected college men will enter the classes of the bank each year, and that their training may be so scientifically planned and supervised that college credit may be given for their work in these classes.

These are useful aids which we seek to render, but obviously they do not in themselves constitute foreign commerce. Upon your combined wisdom and energy, your cooperation and intelligent study of these problems, your initiative, enterprise and practical management—the development of your foreign trade will depend, and upon the results which you and those like you obtain in these fields, the future greatness and commercial supremacy of this country will in time to come largely depend. As a nation we have not hitherto made these things the object of the careful study that other countries—notably England and Germany—have given them, or that we have given to our own domestic commerce. It has been intermittent, occasional, experimental, and with no well sustained policies of government, scientific study of commercial treaties and tariffs, or sustained effort and cooperation of business organizations. The war brings home to us in this connection the vital need of an adequate merchant marine under the American flag and working under laws and conditions which will not place us hopelessly under a disadvantage in competition with foreign nations. In normal times this has not been an insuperable handicap, for the reason that tonnage of all kinds, even though under foreign flags, has been available for the transportation of such foreign export business as we have developed; but for reasons analogous to those which I have shown illustrating how much a banking system of our own may assist in building up foreign relationships and foreign trade, the auxiliary assistance that might have been rendered to us by the establishment of steamship lines, under American registry, and which has been a large factor in promoting the foreign trade of other countries, as well as a most valuable industry of those countries, has been lost to us with all concomitant advantages; and in times of war, as at the present, our absolute dependence upon ships of foreign registry becomes a distressing condition.

Another great and paramount advantage which notably England and Germany have enjoyed, and which has aided them to the greatest extent in building up their preponderating foreign business, has been the willingness of these countries and the practical means at their command, to furnish round amounts of capital, running into billions of dollars, for the constructions of public works, railroads, and all manner of public and private utilities, for which those countries required outside capital in continuous and large amounts in their development.

It is perfectly natural that the channels of commerce of debtor nations should flow to creditor nations, extending the credit which they are bound to have. A railroad constructed with English capital will buy its equipment and supplies in England, and an industrial corporation financed by German capital is likely to make its purchases as far as possible in Germany; and the employees on their payrolls, as far as practicable, will be from those countries. A debtor country must naturally make its purchases largely in the market of the country where credit may be obtained in some form or other, for the settlement of trade balances; and merchants of foreign countries will very naturally prefer to place their orders in countries where more or less long credits may be obtained rather than to purchase from us, if we sell goods only for cash and hold aloof altogether with respect to investments of capital.

Recognizing this condition as fundamental, the American International Corporation recently chartered under the laws of New York with a capitalization of $50,000,000, marks the National City Bank's second great step in the permanent expansion of American foreign trade. F. A. Vanderlip, who was the moving spirit in the conception and organization of this company is Chairman of the Board of Directors. As much publicity has been given to the organization, purposes and objects of this company on account of its recognized far-reaching importance, I take it for granted that you are familiar with the exceedingly strong interest behind it, and its very able personnel in the active management and on its board of directors.

The establishment of foreign branches was the first great step, but it was not enough to stop here. Foreign trade is built up on foreign investments. The United States is the one great nation of the world with an abundant supply of liquid capital to make foreign investments, but as a nation we have concerned ourselves even less with foreign investments than with foreign trade, and as a practical proposition, in order to build up an American market of any magnitude, through which the American investment public could be interested in absorbing foreign investments of this character in any volume, a powerful intermediary company of this character became not only necessary but indispensable.

Under the broad provisions of its charter, it is authorized to carry on any kind of business, subject, of course, to the regulations provided by the laws of the states and countries in which it operates. It can own and operate, or buy and sell, shipping, railroads, street car lines, light-

ing and water plants, docks, warehouses, mines, factories and mercantile establishments. It can organize such enterprises, start them and as going concerns offer their securities to the public, or it can hold and operate these companies as subsidiaries and sell its own securities to the public, based upon these properties. New enterprises in foreign countries are now appealing to American capital; existing enterprises are asking to be financed, and under the exigencies created by the war, investments representing well tried and profitable undertakings are coming on the market for sale at prices that will be attractive to new investors.

Among the valuable points that the experience in branch banking has developed is the close relation existing between a successful foreign commerce and foreign financing. Those countries which have contributed capital to the development of other countries, have reaped, as a result of these financial relations, great commercial advantages. There is at the present time, a fertile field in this direction, and if we do not embrace these opportunities, it will be a most serious obstacle in the extension of our foreign trade.

Loans to Europe	$ 805,000,000
Loans to Latin America	70,000,000
Loans to Canada	150,000,000
Total	$1,025,000,000

not including many private loans and other items which have been placed in the United States. It is estimated we have absorbed in railroad securities alone upwards of $1,500,000,000, and with other securities and the miscellaneous items mentioned, the estimate of $3,000,000,000 is probably not excessive; and before the termination of the war these figures will undoubtedly be further increased.

By reason of its wealth and strong position the United States has been projected into the position of the world's banker for the time being. Although not entirely out of debt to Europe, the indebtedness is fast being wiped out and is negligible compared to the present resources of the country. When the war is over and normal conditions return, there will not be the burden of interest on American

A CORNER OF THE VERANDA AT THE DRUID HILLS GOLF CLUB DURING THE BARBECUE.

Having thus superficially discussed some of the economic conditions imposing upon this country the necessity of seeking outside markets, and some of the fundamental and basic considerations applying to foreign trade in general, I have, in response to your request, at the same time outlined to you in general terms the aid which we seek to render through the medium of our branch banks, our foreign trade department, the American International Corporation, and our other facilities and organization in general.

Since the beginning of the war the position of this country looking to international operations has been tremendously strengthened by the return and absorption of American securities held abroad, and by heavy foreign financing,—principally government loans—in our money markets, all these items combined aggregate a huge total, estimated up to January first at something like three billions of dollars, distributed as follows:

securities to be paid to Europe in exports as heretofore. This will have a tendency to curtail European imports from this country, for the crippled nations of Europe cannot afford to import more goods from us than are absolutely necessary for their rehabilitation and actual needs. The necessity will be forced on them to build up and protect their gold supplies, and as those nations are creditor nations, and other countries,—principally the Latin-American Republics—are heavily indebted to Europe, very strong considerations will obtain for making their purchases of raw materials and supplies as far as possible from South American and other debtor countries—owing them—the more so as those countries produce and export similar raw materials to ourselves. It is to be expected that as normal conditions are restored, Europe will put forth every ounce of available energy to create a balance of trade against this country, to drain our gold supply, to restore her manufacturing industries, re-establish her foreign trade, and give us the

hardest possible competition in all respects. While relatively poor after the war and suffering from disorganization of commerce and industry and innumerable gaps in the ranks of skilled labor, with currency inflation, heavy taxation, probably a much higher wage scale and emigration of citizens to this and other countries, where conditions of life are more favorable, Europe will have some heavy handicaps.

But, on the other hand, the highly centralized and coordinated organization of industry and business, and the big efficiency attained through superior organization in big phases for the conduct of the war, are very likely to result in important advances in efficiency and economy of production, while European industry is meeting conditions ahead. It has been demonstrated that there can be enormous destruction of wealth without corresponding impairment of the productive capacity of a nation. It will be the organization, productive ability, efficiency and economy of those nations with which we will have to compete, as well as natural trade conditions previously referred to. Our resources and wealth alone will not carry us far enough in the race and our present position will be transitory if we do not take advantage of it to improve in organization, efficiency, economy of production and extension of our trade to the utmost.

The greatest advantage, as I see it, that we can take of our present financial position will be in shifting so far as possible the indebtedness of debtor nations from Europe to this country, and by international financial operations to put all countries in our debt, so far as practicable and expedient, thereby safeguarding our gold supply,—which is the foundation of the credit we can extend—creating new commerce with all countries and protecting us from the loss of commerce which we now have. Further, it is by running at maximum capacity and with effective organization and cooperation that the percentage of overhead expense is reduced and profits through economy of production realized.

Cotton manufacturing is a world-wide business, conducted at the present time with more or less efficiency and modern methods in nearly all nations under the sun. It is one of the most ancient forms of industry. But notwithstanding the age of the industry and the universal experience of mankind with it from remote antiquity, the great manufacturing center of cotton is not in any of the countries that produce it, nor in the countries where labor is the cheapest. Of a total of 144,980,000 spindles in 1914, 56,000,000, or more than one-third, are British. About 90 per cent of all the cotton spindles and looms in Great Britain are located in Lancashire, having an area only one and one-half times that of Rhode Island.

Melvin Thomas Copeland, Instructor in Commercial Organization in Harvard University, summarized the result of his investigations into the labor scales of various countries as follows:

> Definite conclusions as to the exact difference in labor cost between the several countries cannot be drawn. One thing is certain, however; the earnings of American cotton mill operatives more closely approximate those received in England than we have commonly been led to suppose.
>
> And when the output per operative is taken into account, it appears very doubtful if the labor cost on ordinary goods is appreciably higher in our own country. The difference in the preparatory and spinning process is slight, and in weaving the advantage is in favor of the Americans. The Germans may excel in the production of the cheaper novelties and the French in certain fancy goods, but England is still the great exporter of cotton fabrics, although her work people obtain higher earnings. Similarly, the high American wages do not necessarily denote a handicap. The cheapest labor may be the dearest. At all events, I have no hesitation in asserting that higher wages are one of the least of the obstacles which stand in the way of American cotton manufacturers in international competition.

Great advancement has been made in the United States in the last fifteen years, and in a recent extremely interesting article by Herbert E. Walmsley, he refers to the advantages of Lancashire in cheap fuel, climate, building materials, economy of machinery installation, and abundant trained labor, as the principal advantages of the Lancashire district.

There is no doubt that under the present war conditions exceptionally favorable opportunities exist for the extension of your foreign trade. The greatest handicap for the time being is the congested shipping situation. The South American field to which we have been giving special attention, is in a very receptive condition and is calling for American goods on a much larger scale than ever before. The predicate has been laid, as I have shown, in various important respects, for building up permanent business.

You will have to study what your foreign trade calls for and furnish them the goods they want, made up according to their tastes and requirements, humoring the idiosyncracies of their trade, rather than forcing upon them our ideas and goods which they do not want. In a word, you will have to study them as Europe has studied them. You must cultivate personal friendships; you must give liberal credit terms; you must be prompt and reliable in filling orders and making deliveries; you must meet competition. You must make it to their advantage to do business with us and you must go at it in a way indicating permanency and sustained effort. It is probable this may be best accomplished by cooperation through a common selling agency, or something of that kind, to minimize expense and obviate unnecessary competition between our merchants and manufacturers. Difficulties will be encountered, but not incapable of solution. A study of the history of your industry reveals a continuous record of conditions of the most difficult character met and overcome; a record of success through brains, ability and ingenuity of methods. You need now to develop your foreign trade. You will surely find the means to accomplish it.

The next paper to be presented was a discussion of

The Dyestuff Situation

by Dr. Charles H. Herty, president of the American Chemical Society. This address will be found in full in the Dyeing, Bleaching and Finishing Department of this number of COTTON.

The next address on the program was by Federal Trade Commissioner William J. Harris, who spoke on the

Work of the Federal Trade Commission

and said in part as follows:

Most of the large problems of business with which your association is concerned have to do with the improvement of conditions in your industry, and to that extent with the industrial welfare of our country.

A great deal can be accomplished by collective efforts

(Photo by Francis E. Price, Atlanta.)
PANORAMIC VIEW OF THE DELEGATES AT THE DRUID HILLS GOLF CLUB.

on the part of those engaged in like enterprises, and by cooperating you can accomplish wonders in many ways in improving conditions under which your business is conducted. Concerns engaged in the same industry have much in common in improving processes of manufacture, standardizing products, establishing systems of cost accounting, obtaining credit information, and promoting the welfare of employees. By exchanging ideas, you broaden your outlook of business as a whole, and your combined knowledge and experience helps to solve many difficult problems.

Germany's success as a commercial world power is due very largely to the policy of organizing and cooperating. Her business men have worked together. They have established communities of interest among themselves for the mutual purpose of promoting trade at home and abroad. They have organized in every important industry trade associations, and into these are gathered 85 per cent of the manufacturers engaged in the respective industries. This has proven to be the very backbone of German's industrial and commercial achievements. More than 600 associations of manufacturers, producers, and merchants exist in Germany and in addition to these there are about 5,000 subsidiary business organizations. The German government not only sanctions these industrial organizations but assists them in many ways.

While I was Director of the Census, I was greatly interested in the statistics concerning cotton. In my effort to improve these data I consulted with the members of your association and with the cotton producers. On account of the valuable suggestions received, many changes were made in the conduct of the work.

One of the more important changes made was the separation of the statistics for the quantity of linters obtained. Except for the separation of the statistics of linters from lint cotton, the crop of 1915 would have been regarded as a 12,000,000 bale crop instead of 11,000,000.

Cotton is the second largest crop of the United States, the principal crop of the Southern states and ranks first in exports of the United States. If the cotton produced in this country were manufactured here into as fine a grade of products as is now produced from it in foreign countries, there would be credited annually a total of 2,155,000,000 instead of 665,000,000 dollars. Taking into consideration the number of persons employed in the 25,000 ginneries, required to gin the cotton from an average crop, the number of persons employed in the cottonseed oil mills, in the cottonseed oil refineries, in the manufacture of cotton goods, and in the production of hosiery and knit goods, as well as in the planting of the crop, its cultivation, care and picking, I am satisfied that there is no other agricultural crop of the world from which such a large number of persons, directly or indirectly, obtain a livelihood.

At the time of the organization of the Federal Trade Commission, business conditions on account of the war were completely demoralized. In the South, where the cotton you manufacture is produced, business was paralyzed. Though across the ocean from the countries at war, the financial interests of the South suffered more than that of any country except Belgium.

Those engaged in the production and manufacture of cotton suffered more than any other class of business. The energetic and able manner in which the producers and manufacturers of cotton handled this serious situation is an index to what they can do to develop this industry in the future when conditions are again normal. This leads me to hope and believe that before many years the manufacturers of the United States will consume practically all instead of only one-third of the cotton produced in our country.

Your association is interested in business efficiency, the conditions which make business prosperous, and the relation of government to business. Government and business are and should continue to be mutually helpful. Our Government has been gradually extending assistance to different groups upon whose prosperity depends to a large degree the prosperity of the country. The Interstate Commerce Commission, for example, was organized to adjust and determine questions arising between shippers and carriers.

Farmers, fruit growers, and various producers' associations of the country also receive advice and rulings in matters affecting them from the Department of Agriculture. The Federal Reserve Board likewise gives to the bankers information as to their powers and duties. These groups have received assistance. Why should not the business men in industry be aided also?

Realizing that general business had no such Government agency, the president recommended to Congress that a board with such duties and powers be established, and the Federal Trade Commission was created.

The Federal Trade Commission has been in existence a year. We have found among business men a rather vague idea as to the power of the Commission. I propose in this address to outline the various duties and powers of the Commission and to give a brief account of how the law is actually working in practice.

When the Commission was created, the impression was general that it was to be an inquisitorial body which would be ever searching the field of business like a detective for evil-doers. This is a very one-sided conception. The Commission is an agency of public service—service to the whole people. Its duty is quite as much to bring to light what is sound and serviceable in business as what is sinister; to give the Government and the public a correct knowledge of the facts of business so that the laws and their administration may promote and not, through misundertanding, hinder the interests of us all. More and more the importance of the constructive side of the Commission's work will be perceived.

The powers of the Commission, as outlined in the Act creating it, are of three kinds. In the first place, the Commission has a general power of investigating corporations engaged in interstate commerce. It may require such corporations to make special or annual reports, furnishing such information as the Commission may require as to the organization, business conduct, practice, and management. It is hoped that the information to be gathered by these general investigations or by these reports may be of aid and benefit, not merely to Congress as a basis for future legislation regulating interstate commerce, but to business men.

In spite of all the attention that has been given to business during the last decade it is remarkable that today there is no comprehensive data available, no constructive material at hand to furnish to a manufacturer, merchant or trade association desiring to improve unsatisfactory conditions in their industry. This need we seek to meet. What the Government is doing for the farmers, the railroads and the bankers, we are trying to do for business men engaged in industry.

In order to cooperate intelligently with the manufacturers and merchants of the country, we must have comprehensive data. Realizing this, we recently mailed to every corporation in the United States a form in which we asked a few simple questions about their industries. These data will be compiled by industries and a summary of results sent to each company in that particular line. This will indicate to each and every man in the business whether or not the industry he is engaged in is in a healthy condition. If an industry is showing no earning power, that industry either is not well managed or the production exceeds the demand. Knowledge of existing conditions will prevent others from entering the business or unprofitably investing additional capital where overproduction already exists. The industry in which conditions are unsatisfactory will receive particular attention and the real cause of the conditions will be ascertained.

A manufacturer who does not know with a close degree of accuracy what it costs him to produce the different articles he manufactures and what it costs him to sell them, is not in a position to meet intelligently competition and invites business disaster. Many of the larger manufacturers have thorough cost accounting systems, which they recognize as necessary in order to give them the information essential to successful management. On the contrary, the number of small manufacturers who have no adequate cost accounting system and who price their goods arbitrarily is amazing.

Proper accounting for the small manufacturer is most essential. It is necessary for his success that he know on what particular article he is making a fair profit and on what he is making only a narrow margin of profit or losing money. If he has this information he can concentrate on the manufacture and sale of the product on which the profits are satisfactory.

The Commission has no intention and no desire to use compulsory methods. But it does hope to reach the desired end by encouraging improvements in accounting practice, by indorsing standard systems of bookkeeping and cost accounting, and by assisting in devising standard systems, either at the request of individual merchants and manufacturers, or through the association that represents the industry.

The Commission is also specifically authorized to investigate trade conditions in and with foreign countries where associations, combinations or practices of manufacturers, merchants or traders, or other conditions, may affect the foreign trade of the United States. Under the authority granted by this section, the Commission is conducting a thorough investigation into competitive conditions in foreign trade, and methods adopted by foreign manufacturers and exporters in the distribution of their goods.

I take pleasure in stating that in this work the Commission has received the hearty cooperation of the business men and as a result of the investigation the Commission has obtained a vast amount of valuable information. The Commission expects to submit the results of its work to Congress in the immediate future, with the hope that legislation will be enacted which will place our business on an equal footing with our foreign competitors.

Acting with the secretary of commerce, the Commission has recommended to the president that legislation to prevent unfair dumping be enacted. It has been the practice of some European manufacturers, who control in their line a large part of the world market, to destroy competition abroad by reducing prices in the markets of their competitors to a point below the cost of production. While not necessarily contrary to business ethics, this practice usually is unfair. Competition today is international in character and the American manufacturer is entitled to the same degree of protection from unfair methods, sought to be perpetuated by foreign rivals, as it receives from unfair competition from domestic competitors.

We have reached the point under normal conditions where we must have foreign markets for our surplus manufactured product. The American people, and particularly business men, large and small, are heartily in favor of the Government giving immediate relief that will make it possible for us to obtain our share of foreign business so that our factories may run continuously and keep our labor permanently employed.

In foreign trade men think in terms of national competition. In many foreign markets the contest is not so much between individual corporations as it is between national industries. In South America we hear not of the actual or potential competition of European individual corporations or houses, but of German, French, American or English competition. By means of cartels or trade associations the leading industries in those countries have organized and when they move forward into foreign markets they move forward united against competitors from other nations. Countries like England and Germany have built up a permanent export market in the countries of the world through the earnest cooperative efforts on the part of those interested in the particular industry in question.

The Federal Trade Commission, in the third place, has certain regulative power over interstate commerce. This power of the Commission affects vitally men engaged in interstate commerce and is the one in which you, as business men, ought to be most interested.

The regulative powers of the Commission are conferred, not alone by the Trade Commission Act, but by certain sections of the Clayton Act. Section two of the Clayton Act declares discrimination in price between different purchasers of commodities to be unlawful under certain conditions. This section is especially interesting to manufacturers. It

does not mean that the same price must be made to all customers, but it does mean that a manufacturer or dealer shall not make lower prices in the places where he has competition for the purpose of putting the competitor out of business. This kind of price cutting was one of the favorite clubs of certain powerful monopolies.

Section three of the same Act makes exclusive purchase and sale arrangements unlawful under certain conditions. This section prohibits exclusive or "tying" contracts whereby a lessee or purchaser agrees not to use or deal in the machinery or merchandise of a competitor, when the effect may be to substantially lessen competition or tend to create a monopoly in any line of commerce.

Some of the most important cases now before the Commission involve the legality of these so-called "tying contracts." It may be noted that similar agreements, with respect to patented articles, have in recent years been prohibited by the laws of England, Australia and New Zealand.

Section seven declares it unlawful for a corporation engaged in interstate commerce to purchase the stock of a competing corporation where the effect of such purchase may be to substantially lessen competition between the two corporations, or to restrain commerce in any section or community, or tend to create a monopoly in any line of commerce. Section seven also makes it unlawful for a holding company to acquire stock in two or more corporations where the effect of such acquisition may be to substantially lessen competition between such corporations or to restrain commerce in any section or community, or tend to create a monopoly in any line of commerce.

Section eight makes it unlawful for corporations with more than a million dollars capital to have common directors, if elimination of competition by agreement between the two would restrain trade. This provision does not become effective until October 15, 1916, two years after the passage of the Clayton Act, consequently the Commission has not as yet had anything to do in the enforcement thereof.

Section five of the Federal Trade Act makes the general declaration that unfair methods of competition in commerce are unlawful, and authorizes the Commission to enforce this provision in all cases where the Commission is of the opinion that the public interest is sufficient to require action by the Federal Government.

None of these provisions, either in the Clayton Act or the Federal Trade Act, are criminal provisions. There is no penalty of any kind provided. The method provided for their enforcement is entirely new. The Commission is authorized, whenever it has reason to believe that any of these laws are being violated, to file complaint, stating its charges, notifying the person or corporation complained of to appear before the Commission and show cause why an order should not be issued by the Commission directing the person or corporation complained of to cease and desist from the illegal practice. If a hearing is considered desirable by either the Commission or the party complained against in the Circuit Court of Appeals, the Court must accept the facts found by the Commission if there is any evidence in the record upon which such findings can be based.

As a usual thing in practice the Commission does not disclose either publicly or to the persons complained of, the name of the person who filed the application with the Commission. There are two reasons for this practice.

First, it is desirable that everyone should feel free to call the attention of the Commission to the practices which are unlawful without incurring the hostility of powerful interests, and second, the Commission, in filing any formal complaint acts for the public interests and makes its charges in its own name.

You will be interested in knowing how this practice of the Commission in relation to the enforcement of law is working out in practice. During the first year of the Commission's work there have been filed with nearly two hundred applications or complaints for violations of those provisions of law the Commission is authorized to enforce.

Many of these complaints gave rise to conference rulings which the Commission published for the information

of business men and others interested in the work of the Commission. These are not decisions in formal proceedings, but merely expressions of the opinion of the Commission on applications for the issuance of complaints and informal inquiries with regard to particular facts which involve the interpretation and construction of the Federal Trade Commission Act and of those sections of the Clayton Act with the enforcement of which the Commission is charged. Copies of these rulings may be obtained from the Commission.

The work of the Federal Trade Commission then is, first, preventative, and, second, constructive. We have found from experience that the number of business men who intend to violate the law is negligible. The great majority of them are conducting their business honestly and desire to continue to do so. We have found them willing to cooperate with us to eliminate unfair methods from their own industry—methods which they individually disapprove but which they lack the collective power to destroy.

But our work as you have seen is more than negative. It is constructive. While real success in business depends on the men in it, it is our purpose to do everything that we possibly can to help the business interests of the country—not only the large concerns but the small and medium size concerns as well. Business men will find us willing to cooperate heartily with them in increasing the efficiency of their industries, in improving the methods of trade, and in developing markets abroad for American goods.

Necessity for Cooperation.

At the close of this paper President Albert Greene Duncan of the National Association of Cotton Manufacturers addressed the meeting and made another strong plea for cooperation between the cotton manufacturers of the North and the South. This plea for America first was along the same line as his remarks at the Memphis banquet one year ago, and the prevailing conditions in Europe since that time have shown the foresight and wisdom of the speaker. Mr. Duncan said:

I certainly did not expect, that having made a few remarks this morning to Mr. Maxwell, I would be called upon again. I thought my duty was done. I am very glad, however, to be with you and express the greetings of the National Association of Cotton Manufacturers, a sister organization in that it has the same objects and purposes. I feel that this meeting has already taken serious steps towards the study of the problems that confront us, and are of great interest to us.

I don't think we should be carried away too much with prosperity. We don't want to feel too sure that the present prosperity is going to remain with us always. We want to know about how long it will last, and what course we are to follow, and I feel we must approach it upon a National basis, following along the lines of the American form of government. We are too much divided on sections and state lines, etc., instead of that we are Americans, and not New Englanders or Southerners.

The proposition in the North is the same as in the South. You have different hours of laboring, and different conditions and customs of marketing goods, but cotton manufacturing is cotton manufacturing the country over, and our policy should be to treat it on a National basis.

The Tariff is not a local issue, but it is a National issue, and effects each part of the country equally, and every manufacturer in the business. I believe we have, and I am willing to take the indictment for New England, treated these great National problems as to how they would affect our own section instead of how the prosperity of our Country would be affected.

Gentlemen, we must take this National stand, because we can't have good foreign business unless we have good home business. The first essential for any market is a well employed, well paid labor, the proper conditions for manufacturing, and a good supply of money, and that can only be brought about by wise National Legislation.

I am not here to make a tariff speech. What we need today in this country is National Legislation. We should be growing tired of the all-the-time-talking, and doing-nothing policy of Congress in the last few months. I refer

ALBERT GREENE DUNCAN.

to Congress as a whole. We never had a crisis like this before. It is time that this Conutry be put in a position to take care of its own interests, and yet two years after the war started, we are still discussing whether we need any preparedness, or what kind we need, and all because of party affiliations and lack of the spirit of America first.

I was on the train the other day and heard some men discussing this subject in the smoking room. One man said "I thank God that there has never been a gun made that can shoot from the Atlantic to the Mississippi." That man, gentlemen, was not thinking along National lines. We have got to forget our local association, forget our local interests, and put ourselves in the position of America First, America All. That, gentlemen, is the message I want to bring to you today.

Mr. Duncan was followed by W. A. Erwin, president of the Erwin Cotton Mills, West Durham, N. C., who introduced the following resolutions, which were unanimously adopted:

Whereas, The shortage of synthetic dyestuffs resulting from the cessation of foreign imports during the past year has seriously handicapped and now threatens our industry, and

Whereas, We deem it essential that we be freed as promptly as possible from our dependence upon any foreign nation for our supply of synthetic dyestuffs, therefore be it

Resolved, That this convention express its appreciation and heartily endorse the program of legislation outlined in the address of Dr. Charles H. Herty, president of the American Chemical Society, before this Association today, and be it further

Resolved, That a committee be appointed consisting of the president of this association and two members of its Board of Governors to present in person these resolutions to appropriate committees of the United States Senate and the House of Representatives, urging that in our behalf they give prompt and favorable consideration to such legislation, and especially to the enactment of the tariff rates recommended by the New York section of the American Chemical Society, which will insure prompt expansion of the domestic dyestuffs industry, and be it further

Resolved, That we consider such tariff legislation as an emergency measure which should command the support of all members of Congress, regardless of party affiliation, and be it further

Resolved, That we heartily endorse, commend and appreciate the effort of the present National Administration to create a non-partisan Tariff Board looking to the adjustment of our national tariff laws to the general good of the American people.

The meeting then adjourned.

Immediately after adjournment 80 automobiles and three chartered street cars conveyed the delegates to the beautiful Druid Hills Golf Club where an Atlanta style Georgia barbecue was served. Following the 'cue was singing, led by "Cousin" Fred Houser and other noted song leaders among the visitors. A group photograph was then made and dancing enjoyed until it was time to return to the city to prepare for the evening entertainment.

This was a buffet supper served from 7:30 to 9:00 at the Piedmont Driving Club, followed by a short vaudeville performance by two New York artists and dancing until the early morning hours.

The call to order at the

Wednesday Morning Session

came at 10:30 o'clock and after a few announcements President Maxwell introduced Donald Frothingham, manager of the foreign trade information bureau of the American Express Company, New York, who addressed the meeting on

Foreign Trade Building

and spoke in part as follows:

The up-building of a great American foreign trade can be reduced to the single problem of how to sell more American goods in foreign markets. That problem of selling goods abroad is an individual one, and its solution depends on individual action, rather than discussion, for the main reason that goods do not "sell themselves" in foreign markets, any more than they do in the United States.

For the first time in the history of this country, the foreign trade problem has assumed national proportions. The shifts in world trade following the declaration of war in Europe have thrown our manufacturers into foreign trade work and have most of all demonstrated our "unpreparedness" in the rudiments of foreign trade procedure. With the exception of a selected few American products, such as sewing machines, typewriters, automobiles, illuminating oils, cash registers, footwear, our manufactured lines have been largely conspicuous by their absence on foreign markets.

Suddenly enough, there has come both demand and opportunity in foreign fields for American goods. The American manufacturer finds himself willing to have foreign trade—and at the same time uncertain of just how to get it. With characteristic business decision, many of them have recognized their own handicap in this new work, and have promptly reviewed the opportunities for assistance in landing these desirable foreign trade prizes.

You will pardon these following pointed remarks concerning American Express work in foreign countries. They are necessary to explain the action taken in our work of practical foreign trade promotion.

Most of you are familiar with the American Express offices abroad, in the days when you traveled Europe on the familiar blue American Express Traveler's Checks. Suffice it to say that these offices have been maintained in the foreign field for twenty-five years. They cover Europe from one end to the other; on their payroll is a foreign organization of more than five hundred men. This past year these American Express offices have been extended to include Petrograd, Buenos Aires, Manila and Hongkong. These branches abroad do three main kinds of business: Foreign financial transactions; foreign freight and express traffic, both import and export; foreign travel and tourist business.

Our foreign trade promotion problem then, was how to use these American Express offices for the best advantage of American manufacturers out after foreign business. An exhaustive investigation was started, which resulted in the organization of what we call the Foreign Trade Information Bureau, offering a line of specialized information and services to help American manufacturers get their products into foreign markets. What has been done is to install a new service at these foreign offices, making these offices points of local commercial information available for our American business friends.

Our investigation disclosed that a tremendous majority of manufacturers needed active assistance abroad. The manufacturers themselves outlined the services wanted, why they were wanted, and how they could be used. We did the rest, by perfecting the program and putting the plan into full operation.

The services finally devised include, first of all, the use of our foreign organization to secure confidential reports on the rating and standing of foreign business concerns, for the information of American firms.

Along with that came the matter of making confidential trade investigations on order, in foreign markets, in behalf of American business houses. This is handled by having the manufacturer provide us with a list of questions, the answers to which will give him the exact information he requires. Such questionaries are transmitted direct to foreign offices designated, who in turn conduct their investigations locally, and make returns to the Foreign Trade Information Bureau in New York.

Next came the important service of using foreign offices as points for local introduction. American manufacturers were not securing action on their correspondence with for-

eign prospects. The foreigner wanted to know the standing and repute of an American house before doing business. So we devised the American Reference Statement form, to be filled out by American firms, for deposit at foreign offices designated. This form is filed at such foreign offices, and the information held available to foreign business inquirers, without any charge to such inquirers. The service has proven notably successful in cutting down the time of preliminary correspondence negotiations, by making possible an effective first hand introduction in foreign countries.

Foreign business men have for years made a habit of calling at our offices abroad for information on American producers or manufacturers. Since the war, these calls have multiplied so fast that to facilitate business for our American friends, American catalog files have been placed in operation at certain offices, where they are held available for inspection and study by foreign business callers. Results from this work have been particularly good at Buenos Aires and Petrograd, in effecting new direct connections and in placing of orders for immediate business.

Firms in this country are looking for foreign prospects with whom to open correspondence. By calling upon our branches abroad we have been able to secure direct lists of desirable dealers, importers, etc., in foreign territories—lists of any description, which have the merit of being fresh and accurate—and which have made possible successful sales results by direct circularization.

For the manufacturer who has already started foreign business, the friendly offices of our men abroad have often enabled adjustments, and saved litigation in case of trouble. In other instances, a case has been quietly turned over to a reputable local attorney, in such fashion as to "save the bacon" of an American house in trouble with a foreign buyer of uncertain reputation.

In short, the quickest explanation of our work of foreign trade promotion is in the fact that our foreign organization is at the service of American manufacturers as "friends at court"—in the full sense of the word—outside of our active work as handlers of foreign exchange, foreign freight or foreign travel traffic. There is but one limitation, which is in the selling of goods, on a commission or any other basis. Up to that point, the company stands ready to render almost any service that will result in actual foreign trade building.

Such is the work of the Foreign Trade Information Bureau, working for the American manufacturers in their fight for world trade, and operating through the chain of foreign offices of this company in Europe, South America and the Orient. The company I serve simply made full and immediate use of its own facilities, not for profit, but for by-product use in assisting in the great work of building American foreign trade.

The story is new only in that it is avaialble through an established American organization. Similar work has been done for years by German and British organizations in the foreign field. Necessity throws American manufacturers into active foreign business, and it is our privilege to make available the "on hand" services of an American-built and owned foreign organization for their assistance.

For the unblushing reiteration of the phrase American Express in this description of trade service, I ask your forbearance. It has been necessary to show concretely how a service has been developed for actual rather than theoretical help in selling American goods abroad—with due regard for the outstanding fact that Uncle Sam's problems of foreign trade extension is the problem of *selling his wares*, rather than discussing conditions.

Immediately following Mr. Frothingham came an address

Welfare Work

by Charles R. Towson, secretary of the International Committee of Y. M. C. A., who said in part:

Wherever there is steady progress new standards as steadily arise. Our industrial progress has brought many changes in standards especially of organization, methods and machinery. At first these changes moved slowly like a succession of dissolving views, but now they make a veritable motion picture. This progress in organization, method and machinery, has been directed in the main towards one objective — production. This has been the wonder word of industry and the rigid measure of success. The test of ability of manager, superintendent, foreman and workman, has been the *output*. It is this that got us last year $2.00 from the factories for every dollar from the farm. Of course, this has meant pressure; every man in a responsible place in industry has felt it; the workers have felt it, too.

The steel industry, for example, has always afforded a striking illustration of both output and pressure and Andrew Carnegie was an early illustrator. He was a master of production; he was also the prince of high pressure. When a manager wired him that they had beaten all records that week, Carnegie replied, "Why not do it every week?" Such pressure is less noticeable in the textile industry, but doubtless you, too, are familiar with that slogan, "get results."

It is a striking fact today, however, that industry is taking on a larger objective; it must have not only production, but *efficiency in production*. This, as I understand it, means the largest possible output with the smallest possible waste—of time, material or energy. Mr. Carnegie testified in Washington early in 1912 that now he would not do business exactly as he used to. Doubtless the changes he would make would include not less output but a lessening of the pressure and greater attention to the avoidance of waste—especially human waste.

Industry is saving *material* today as never before. I have just come from a coal mining territory where the state reports five years ago showed that fifty per cent of the coal was being wasted in mining. Now mines in that state are losing only eight per cent. It will not do in the future to destroy a ton of coal for every one marketed as is still being done in some fields. Organization, machinery and method must be adjusted so as to market that ton of coal with the least possible loss of time, material and energy. Lumbermen, as another example, are no longer content with increasing the production. They are busy with conservation. They are preventing wastes by fire, by neglect and by unskilled handling. They are doing their best to reduce the waste in felling the trees and sawing the timber. And they are reforesting scientifically for the sake of the future.

Industry is also guarding the *time element* more carefully than ever. Every time-consuming feature that can be dispensed with is quickly cut off. There must be no

lost motion. Scientific management has helped the man of the steel mill to handle 47½ tons of pig iron a day who had beeen handling only 12½ tons.

Industry has also felt the necessity for avoiding the waste of *energy*. How skilled we have become in wrestling the heat units from escaping smoke, steam and sawdust. Georgia made the copper smelters—over in Copperhill, Tenn., stop and think; now they are taking the gas that used to spread over hill and valley, killing grass and leaf and flower, and are converting it into sulphuric acid, at great profit. At times the by-product has been more profitable than the copper metal.

Genius has been shown in conserving material, time and energy, but how about the human element in industry?

Should not the new standard, Efficiency in Production, apply to the human factor as well as to the organization, machinery and material? Employers everywhere answer "yes." They are beginning to put a premium upon that minimum waste of life, limb or human welfare. The genius in industry which has given to the world the wonder of machine values is beginning to address itself into the more important if more difficult subject of human value. This marks the dawning of industry's brightest day.

But just as formerly it was difficult to induce conservative managements to discard old machines for new so it is today with the new methods of dealing with the human factor. Progress is being made, however, and nowhere is it more noticeable than in the textile fields. Witness the new standards of factory construction, the sanitation, the safety devices, and the new types of villages, housing, health measures, education, etc.

It is still very easy for mill managements, however, to give the major regard to material and machinery and to scan with special care any expenditures for the welfare of the workers. A manufacturer who was interviewed recently regarding some welfare work which he favored, but which would involve a cost of $8,000 for permanent equipment and $1,500 a year for maintenance, said, "That would require special consideration by the directors and certain of our stockholders and I know they will not approve it." On his desk lay the order to discard $18,000 worth of machinery and install $40,000 worth of new. He had no trouble of getting quick action an scrapping old machinery but with the question of scrapping old methods of dealing with employees it was different.

The reason is that nearly all managements have learned to measure machine values and can explain matters of material, organization and production in terms that directors and stockholders can understand.

On the other hand only a few managers can estimate human values and they have difficulty in making directors and stockholders understand the economic value of such factors as integrity, intelligence, stability and good will.

Stockholders' and directors' responsibility for two things is becoming clearer and more binding every year—viz: to know more about human values and to support managers in the use of methods and agencies for the welfare of the workers. In the future they must be as willing to invest heroically for the humanics as they have in the mechanics of industry.

The greatest forces in industry are like the electric current—unseen. *Integrity*, for example, cannot be reduced to a formula but it is a real financial factor. It will take a remarkable stopwatch and piecework system to offset the lack of integrity on the part of employees whether it be dishonesty or careless indifference.

Intelligence cannot be put under the microscope but the lack of it is bound to show in the dividend column. Some really see this. Others "having eyes see not."

The dollar and cent value of that intangible thing we call *stability* is and always has been great. An operator in Virginia said recently that fifty per cent of his total cost of operation is in changing labor. One of your own mill managers told me that in one year he hired ninety-six men to keep twelve positions filled. What a penalty industry pays for the floater!

But the greatest of all these unseen forces is the *good will* of the worker. Suppose you could keep every worker on the job. Assume that there were no changes. What will it amount to if the *spirit* of the workers is not right? *The spirit of the workers is industry's greatest asset—or liability.* This fact cannot be stressed too much.

The physical welfare of the worker should be of great concern to every employer for in no single industry can it be said of the workers "they are physically fit." The workers' lack of intelligence and training causes employers sleepless nights, for regardless of whose fault it is, they are far from a hundred per cent. But the greatest loss comes to industry when the *spirit* is wrong. The substandard body costs industry its thousands; intelligence below par costs its tens of thousands; but what are these compared with the loss that comes when the spirit of good will is lacking! Then comes careless neglect; then "withholding efficiency;" then Sabotage; then open strife; then destruction. This is the day for a new estimate of spiritual values in industry.

As I think of the labor conditions in some other textile fields I realize the importance of your high appreciation in this Southern field of that great asset you possess in your own workers. A homogeneous people; of one color, race and nativity, and with traditions in common. A people of superior stock with great capacity for development; and *capable of infinite goodwill.* Disadvantaged in the past they have never lost their idealism. Their ideals rise daily with increase of economic and social opportunity.

That many of the Southern operators have appreciated this great human factor in your industry is well known. (That there are some who do not, imposes a constant penalty upon the whole industry.) I know a good many of the Southern operators and it is fact—not flattery—when I say that nowhere have I met a group of men who seem to desire more sincerely the real welfare of their employees.

It is also true that you have given much thought and invested a good deal of money in various forms of so-called welfare work. This shows that you do value your relation to these your employees. For Y. M. C. A. work alone $342,000 has been invested in buildings and equipment in textile fields, and $30,000 is given annually for maintenance by employers.*

It must be remembered, however, that standards are rising fast, and much of what a few years ago was welfare work, born of the spirit of goodwill on the employers' part is now merely good business and for the employers' profit. It should never be thought of in lieu of wages, hours, or

*The employees give dollar for dollar with employers for maintenance.

right conditions. Welfare work lies in the *advance* field of industrial relationships in that zone of industrial progress just beyond that prescribed by the law and by the necessities of the business. It is voluntary and born of goodwill.

For example, modern factory construction with its light, ventilation, safety features, rest rooms and hospitals. Equipment such as toilet, baths, lockers, restaurant, etc. The community churches, schools, libraries and playgrounds and the improved housing and health conditions, formerly all of these were more or less the evidence of the employer's personal and voluntary interest in his employees. And these things were dependent somewhat upon the success of the business. Now they are necessary factors without

Past President T. H. Rennie.

which business cannot be conducted with propriety nor with the largest success.

Wise operators will keep pace with the rising standards. They will maintain the same spirit or goodwill and express it through an enlarged service along old lines and through new plans for bettering working living and leisure conditions—always beyond the requirements of the law or the actual necessities of the business.

They will also remember that while the spirit of goodwill among employees is greatly to be desired and is a prime economic factor, it cannot be bargained for or bought—it must be *begotten*. The employer is the party of the first part. He should initiate goodwill—begetting methods. He may count upon his employees to respond in kind. The mutuality thus established is one of the most satisfying things that come into the life of an employer. It cannot be measured in terms of production or profit. Some employers have been disappointed by failure of employees to appreciate things done for them. The secret is not in paternally doing *for* men but in fraternal co-operation *with* them.

If, then, this spirit of goodwill and mutuality is of such importance in industry it may not be amiss to refer to one of the chief factors in begetting it.

I refer now not to the qualities of the employees nor to the motives of the employers, but to the men who stand between them.

The operating officers—those in immediate authority—those who interpret the policy of the employer to the employees and who represent the employees to the employer—the go-between—the man next to the men, whether called superintendent, foreman, sub-foreman, overseer or just plain "boss." These *proxies* are at the crucial point in most industries. They, more than any others, are in position to assure industrial peace or to create industrial unrest. They can put oil on the bearings or grit in the wheels. *I make a plea for greater appreciation of these men.* There should be greater care in the selection, more dignity in their positions, and larger recognition of their services.

Since industry's growth has removed the employer from close contact with the employees others must represent him. The overseer in the cotton mill is the embodiment of the employer—his proxy. Have any of you broad gauge employers got narrow gauge proxies in your mills?

The success of welfare work of whatever kind is determined in large measure by the attitude of these proxies. One company put $75,000 into a welfare plant and got some returns with frequent deficits. A new superintendent came; that welfare plant jumped one hundred per cent in results, and no deficits—due to the difference in superintendents.

Frederick B. Gorden, Georgia Member of the National Council.

Progressive policies will fail of best results if the foreman or overseers are not as progressive as the policies. Are your churches weak? The schools backward? The Welfare Club dragging? The Y. M. C. A. below standard? Put the microscope on the preachers, the teachers, the club manager and the secretaries—but don't forget to test your proxies to see what they are doing to help or hinder.

On the other hand it should be said for these men—these vital forces in the mills and communities—that they are not always recognized by the companies as they should

be in matters concerning human welfare. There are foremen and superintendents upon whose suggestions large sums have been spent for machinery and changes in the plant without a question, who, when they suggested changes for improving the physical, mental or moral condition of the workers, have been made to feel that such suggestions were without weight.

I know managers of mines and camps whose requests for a welfare appropriation were sent in five years ago and are still on file. Their influence is great enough at headquarters—except concerning things human. I am inclined to think that if the judgment of the superintendents and overseers could be followed the welfare work along all lines would be doubled in the cotton mill villages of the South this year. And it would be done to the profit of the stockholders. And there would be a stronger guarantee against destructive industrial unrest because efficiency, happiness and contentment would be increased.

In a certain textile field the mills provided a large sum annually to strengthen the civic and social agencies—*after a strike.* It would have been better to have started before the strike. A certain mining company recently expressed a willingness to put up a $50,000 building for constructive welfare work—after strikers had taken possession of their property and made those officers fugitives. If the local superintendent of that mine had asked those officers two years before to spend $10,000 for such a building that request would probably have been denied. Now those general officers have a higher estimate of the importance and recommendations of the man next to the workers—*their proxy.*

I have referred to:

The *rising standards* in industry;

The former demand for *production;*

The modern demand for *efficiency in production;*

The fact that this demand for the avoidance of waste applies to the human factor;

The fact that in the human factor the values are physical and mental but above all spiritual;

The hindrance to welfare work by stockholders and directors who do not know the cash value of character.

I have commented upon your recognition of the qualities of peculiar value possessed by your employees, and have taken the liberty to suggest:

Giving your superintendents and overseers—your proxies—a more influential voice in welfare matters.

All of these things have a vital relation to the subject of welfare work including such matters as wages and hours, safety and health, churches, schools and libraries, hospitals and clubs, insurance and compensation, home beautifying and home economics, etc.—all of these things which relate directly to the welfare of the worker.

I note two retarding tendencies among operators which are illustrated by two whom I met recently. One said: "I think welfare work is excellent—but until our mill has paid a dividend we can hardly expect our stockholders to approve spending any of their money for such a purpose." The other said: "Our mills are in such good condition—so well equipped and operated, that we do not feel the need of anything more than we are doing for our employees."

The first revealed the state of mind which classes contentment-breeding, efficiency-producing, and goodwill-begetting work as a luxury when it should be regarded as a necessary factor in production. The second voiced that ancient philosophy—that there's no need for advertising when business is good. The first delays the day of dividends. The second curtails the period of prosperity. It is easier to understand the first than the second. We can make allowance for a short-sighted policy that is due to lack of funds, better than for the failure of the prosperous industry to enlarge its welfare program, for just as weeds grow faster in the rich soil, there are industrial ills that arise only in prosperous times and progressive contentment and goodwill are the best insurance against these ills.

May I offer two suggestions as to welfare methods?

First—Use those means and those agencies which are *mutual* and which afford the largest possible *self-expression* on the part of employees. Give them a voice in managing all possible phases of welfare work and let them have a share in the cost.

Second—Since the activity of the workers themselves is to be enlisted, let this welfare work be done under the guidance of a *trained leader*—a mutual third party—free from official connection with the company, having a motive that is known to be uncommercial, and a sincere regard for the interests of both employees and the employer.

Consideration of these facts and principles and the use of methods in keeping with them will produce results that will justify the use of that much misunderstood and much abused factor—Welfare Work.

At the close of this address came the

Report of Committees

by the various chairmen. One of these, of particular interest, was that of the Committee on Tariff and Legislation, of which R. M. Miller, Jr., is chairman. Mr. Miller's report in substance was as follows:

We are as yet "between seasons" as to the ultimate effect the present tariff law will have upon our industry, but it is generally conceded that the law has demonstrated its inefficiency and failure as a revenue producing measure and when we eventually come face to face with its provisions we feel that it will also be demonstrated that the schedule is unreasonably and ruinously low.

We must all realize the abnormal conditions prevailing today, and should be careful not to allow our optimism to get the better of our judgment, because of conditions brought about in Europe on account of the war and in our country because of the war.

Importations, at present, are not excessive, but this lull in imports does not justify us in assuming that we have entirely escaped the possible and probable ravages to be wrought later by the enforcement of the present tariff law.

Incidentally and in support of this position we need only to refer to the imports of cotton cloth alone under the present law for the nine months previous to the war—as compared with imports under the former law, for a corresponding period.

From November, 1912, to July, 1913, inclusive, under the old law we imported to the value of $6,176,000 and from November, 1913, to July, 1914, inclusive, under the present law we imported $10,370,000, an average increase of 60 per cent, and in some cases during this period the monthly increase was 100 per cent.

In addition to having to contend with this condition, when the war is over our market will very naturally become the dumping ground for all Europe—hence unless Congress enacts promptly some adequate anti-dumpting clause, we can only see hopeless disaster to our industry and distress to our operatives.

The fiercest competition the world has ever known will also be inaugurated and we feel that commercial preparedness now is equally as essential to the future welfare of our country, as the extreme military and navy preparedness now being so strongly and urgently advocated.

Along this line a Tariff Commission is now a possibility and while our Association is on record, repeatedly, as favoring such a commission—non-partisan in its make-up—it is entirely debatable, whether or not such a commission will relieve the situation, but it is really difficult to imagine how the outlook can be made more discouraging and even an experiment along such lines cannot be more disastrous than the low duties in the present tariff law. As the commission will have no power to make or fix rates, but only to make recommendations and Congress will continue to make the tariff laws.

The weak point with us in a Tariff Commission, however, is, that while we domestic manufacturers will be required to give up our exact cost to manufacture, the commission can only guess at the cost of foreign manufacture, and under these circumstances our "second state may be worse than our first." This condition was exactly that experienced by many of us during the life and workings of the last so-called Tariff Commission or Board.

Our export trade at present is unprecedented, and it would seem that now is the most opportune time in our history for its maintenance, but to accomplish this it is absolutely necessary that we have proper and sufficient transportation facilities and to this end, we again urge, as this Association has before urged—the equipment of a merchant marine—private or government owned as may seem wisest —which will insure the floating of the American flag in every foreign port of the world.

We must realize here in America that the world is today agitating the subject of straight out tariff laws to protect their respective trade and industries. After the war we know that we will be on the highest scale of wages ever paid in this country against which we must compete then with the lowest scale possibly ever known in Europe. How shall the adjustment be made and how shall we be able to equalize these differences are the problems which must be met.

Germany is adopting the tariff policies advocated by Alexander Hamilton which are, in turn, the cornerstone and foundation of our government and even England, the mother of free trade, is seemingly convinced of the error of this cherished policy and is now demanding "protection and development" for her industries and the "fostering and safeguarding" of British trade after the war. In view of these facts and the experience of history, our country occupies the unusual position of tending towards free trade and throwing open wide our markets to the balance of the world.

Looking ahead, therefore, to the changed condition which we must meet again, soonor or later, it behooves us, in the judgment of your committee to continue to exert every effort to obtain and maintain for the textile industry, a just, reasonable and adequate degree of protection.

In addition to the tariff some matters of legislation are now pending of a serious nature and deserving of special and careful consideration by the Association.

The most important is the Keating-Owen child labor bill now pending before the Senate—having passed the House by a decided majority.

Your committee is of the opinion that this bill interferes with the rights of the states and is therefore unconstitutional as has been argued—it is far reaching in the precedent it will establish—it is vicious in its provisions—instigated largely, it is believed, by the hired professional agitator—advocated by those unacquainted with conditions —by sentimentalists who refuse to make an inspection and investigation of the real conditions existing in Cotton Mills. preferring, it seems, to convict us, without evidence of truth, as the hydra-headed monsters of child labor and child death.

In the end it simply provides for an 8-hour day for cotton mills and in addition we must compete with foreign child labor, because when the bill was under discussion in the House, an amendment was offered, proposing to prevent the importation of goods made by child labor, of similar age and under similar conditions, which amendment was promptly defeated. Notwithstanding it was known that in Japan alone 60,000 children under 14 years of age are working 12 hours a day, at the average wage of less than 7 cents per day.

A fight has been made against the bill, but apparently, thus far with little success and we feel that this Association should take a strong stand against it.

It is not yet too late to defeat it or to have it materially amended, as recently strong aid has appeared in opposition to it by the Mothers Congress and the Pennsylvania Juvenile Court and the Probation Association, both of which are violently opposed to the measure. It is now in the hands of a sub-committee of the Senate, composed of Senators E. D. Smith, of S. C., chairman; Joseph T. Robinson, of Ark.; Albert B. Cummins, of Iowa.

Your committee urges the members of the Association to write at once to this commitee in strong opposition to it, but if we manifest indifference and lack of interest, then failure to defeat it will rest largely with the cotton manufacturers themselves.

It is an old saying that "Everybody's business is nobody's business," and if we adopt this policy, go home and not attend to it, then we are sure to have the bill saddled upon us with all of its disastrous results, which will follow its enactment.

Another committee report that created interest was on the Foreign Trade Council Meeting at New Orleans by Chairman D. Y. Cooper.

Then came the reports of the secretary and the committee on resolutions, followed by the annual election of officers. The results of the election were as follows:

President, John A. Law, Spartanburg, S. C.; vice-president, Ceasar Cone, Greensboro, N. C.; secretary and treasurer, C. B. Bryant, Charlotte, N. C.; chairman of Board of Governors, Fuller E. Callaway, LaGrange, Ga.; new members of Board of Governors, George W. Fraker, Spray, N. C.; J. O. White, Gastonia, N. C.; Jno. W. Arrington, Greenville, S. C.; Alex Long, Rock Hill, S. C.; L.

D. Tyson, Knoxville, Tenn.; J. T. Broadbent, New York.

F. B. Gordon, of Columbus, Ga., was chosen a member of the National Council from Georgia to succeed Tracy I. Hickman, Augusta, Ga., whose term expired.

Many of the new officers were called upon for speeches which were invariably short and to the point. The meeting then adjourned.

Wednesday afternoon the delegates were given an opportunity to visit the

Plant of the Atlanta Warehouse Company.

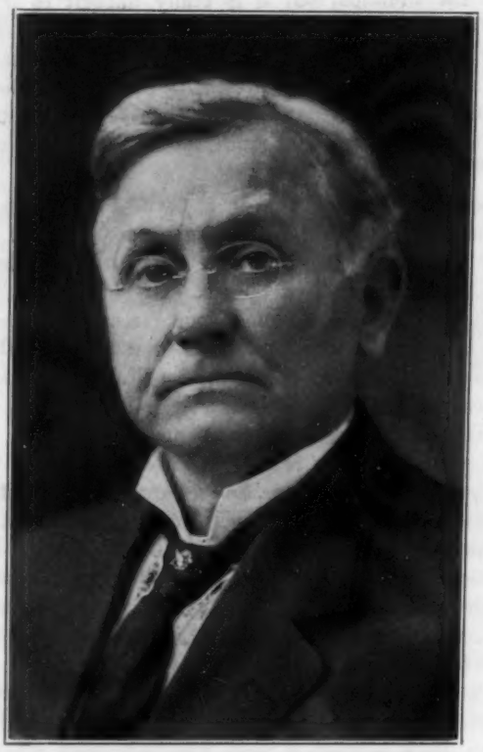
In August, 1914, when the cotton crop for that year was just beginning to be picked and marketed, the European war broke out and paralyzed the cotton trade. For the first time in the history of the cotton industry, cotton became unsalable, and it was necessary to provide storage facilities for the purpose of taking care of the crop until it could be sold. In order to provide such facilities to its customers the Central Bank & Trust Corporation of Atlanta built temporary warehouses, which not only proved a great success, but offered to its customers facilities which they could not get elsewhere. This developed the idea that it would be to the advantage of the farmer and merchant to have adequate storage facilities for holding their cotton, thus preventing its being forced on the market when the price was unsatisfactory; and to carry out this idea the Atlanta Warehouse Company was incorporated, and undertook to build their present plant. It has developed that this is also a great advantage to the cotton manufacturer, as it gives him an opportunity of storing cotton at a lower rate, a minimum cost of insurance, and a minimum cost of financing, when his own storage facilities are not ample; thus enabling him to hedge his sale of yarn and cloth by actual purchases of spot cotton instead of future contracts.

The plant of the Atlanta Warehouse Company is located on Stewart Avenue and the main line of the Central of Georgia Railway Company. It is about two miles from the center of Atlanta, and has physical connection with the Central of Georgia Railway and the Southern Railway. By paying a nominal charge of $1.00 per car, it has switching facilities to all railroads entering Atlanta. The concentrating privileges on cotton in Atlanta not only include north and middle Georgia, but all of the principle points in Oklahoma, Texas, Louisiana, Mississippi and Alabama. Cotton from these states can be shipped on through bills of lading to Southern and Eastern cotton mills and stopped over in Atlanta for one year for storage and financing, and shipped out on the same rate of freight.

This plant was designed and constructed with a view to handling cotton at the lowest possible cost and the lowest possible rate of insurance. The construction is entirely of reinforced concrete, thereby giving an insurance rate of 20 cents per $100 per annum. The facilities for handling cotton have been reduced by the construction of the plant to a minimum of about 1 1-4 cents per bale.

The total number of warehouses on the finished property will be seven, as follows: Warehouse A. 98′ x 962′, composed of 13 individual compartments 74′ x 98′, each with a capacity of approximately 1,000 bales of cotton. Warehouse B. 98′ x 1,110′, composed of 15 compartments 74′ x 98′, each with a capacity of approximately 1,000 bales of cotton. Warehouse C. 197′ x 1,110′, containing 37 compartments 30′ x 197′ and holding approximately 1,000 bales of cotton each. Warehouse D. 197′ x 930′, composed of 31 compartments 30′ x 197′, each holding approximately 1,000 bales of cotton. Warehouse F. total area of 114,000 square feet and holding approximately 10,000 bales of cotton to be used for f. o. b. cotton. Warehouse E, called the compress shed, is 238′ x 220′ in size. Warehouse G. 238′ x 250′, three stories, the upper levels being used for cotton storage and the lower levels used for the storage of miscellaneous goods. All warehouses have the same general type of re-enforced concrete columns, roofs, side and division walls. Total capacity for storage of cotton is 110,000 bales for the finished plant. All the warehouses are constructed or in process of construction, except C. and D.

In connection with warehouse E, known as the compress



ASA G. CANDLER.

shed, there have been erected two Webb high density 2,000 ton compresses, by which the company is able to compress cotton to a density of 32½ pounds per cubic foot. Actual experience shows that a reduction in ocean freight of as much as $3.00 per bale has been obtained by the use of the high density compress.

The unloading platform at the warehouse is 60′ x 1,170′. The loading platform, which is built in conjunction with warehouses F. and E. and adjacent to warehouse F, is 12′ wide and 600′ long, except where the platforms merge into the compress shed for a distance of 220′, where the width is anything desired for economical loading.

The floors in all the warehouses are of loose wood plank on sleepers, laid on a dirt fill. All windows and skylights throughout are steel or sheet metal with wired glass, of standard construction approved by underwriters. The lighting area of the skylights is figured so as to give daylight illumination for the proper handling of cotton in the warehouses in the day time. Kinnear rolling steel shutters, with fusible links, are used on all doors on the exterior and

are 5′ wide and 8′ high. Standard tin clad doors are used in the division walls, and are 8′ wide and 8′ high.

Cotton is transported to all sections of the big plant by the gravity system, consisting of an overhead trolley attached to chains and hooks. These trolleys were made by the Curtis Mfg. Co., of St. Louis. No travelling cranes are used.

The power plant installed consists of two 150 horsepower boilers for operating the high density presses and also for supplying steam for the 50 kilowatt Western Electric generator in connection with an Ames unaflow engine. The plant is wired throughout for electric lighting.

A complete fire protection system extends throughout all the warehouses, consisting of a sprinkler system and outside yard mains and hydrants, with a sprinkler tank built of re-enforced concrete 150′ high from base to top, divided into two compartments at the top each holding 100,000 gallons of water. This is, of course, in addition to the regular fire protection service of the city of Atlanta.

The officers of the warehouse company are, as follows: Asa G. Candler, President; W. B. Hamby, Vice-President; A. P. Coles, General Manager; and J. S. Lewis, Secretary and Treasurer.

Arthur Tufts, is engineer in charge of designing and construction.

In addition to the storing of cotton, the Atlanta Warehouse Company has constructed closed storage facilities for taking care of any class of merchandise, especially manufactured cotton goods, fertilizer material, canned goods, automobiles and heavy products of any kind, against which receipts are issued and money can be borrowed at a very low rate of interest.

At this interesting plant the visitors were shown cotton being unloaded, transferred to the warehouses, compressed and shipped.

The following little personal sketch of

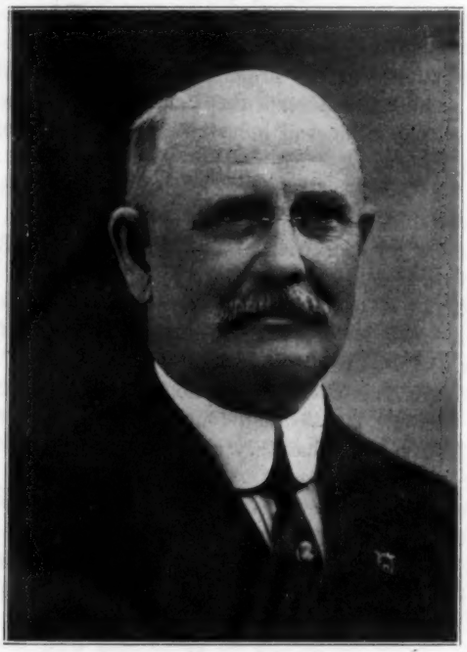
Retiring President Scott Maxwell.

which recently appeared in the pages of a well-known industrial house organ, is most timely, just as he is making his farewell bow as president of the American Cotton Manufacturers:

"Standing four-square with the world, a good fellow among his associates, a practical manufacturer of great ability, so well beloved by his employees that they stand by him in every emergency, Scott Maxwell occupies today the highest office within the gift of his brother manufacturers.

"Born in Webster, Maine, sixty years ago, Mr. Maxwell began his cotton career in the doubling and twisting department of the Androscoggin Mills at Lewiston, in 1871. He later became second-hand of spinning with the Pepperill Manufacturing Company, at Biddeford, and went from there to the Bates Manufacturing Company, at Lewiston. In 1887, having acquired a family, he recognized the many opportunities offered by the South to young men of experience and ability and left Lewiston to take charge of the spinning department for the Graniteville (South Carolina) Manufacturing Company, in their Vaucluse Mill. In 1897 he was superintendent of mills at Rock Hill and Fort Mill, South Carolina, and in 1898 he went to Huntsville, Ala., as superintendent of the Dallas Manufacturing Company. Three years later he was made agent at the Lanett Cotton Mills, West Point, Ga. About twelve years ago he became agent and southern manager for a well-known New England concern, at their Southern mills, the Indian Head Mills of Alabama at Cordova, Ala. Here he has the unique experience of managing the only cotton mill in the country where the coal for the power plant is mined in the mill yard and rolled to the boiler room in mine cars.

"Always an active leader in progressive movements related to the cotton industry, he early became a member of the American Cotton Manufacturers' Association. In 1910 he was placed upon the Board of Governors, where he served continuously for four years, being re-elected and made chairman in 1913. In 1914 he was elected vice-president, and at the annual meeting in Memphis, Tenn., in 1915, he was made president. Without a single instance of labor trouble or other unpleasantness at his mills, and with a great personal interest in his operatives and their welfare, he denounces in no unmistakable language those drivelers in their paid mouthpieces who are continually vomiting their scandalous stories about Southern cotton manufacturers, couching their spleen in such a manner as to prevent legal redress.



RETIRING PRESIDENT SCOTT MAXWELL.

"Mr. Maxwell is a lover of horses and has several with speed records worth while. Since the government locks on the Warrior river have been completed and he has a small lake at his command, he has become much interested in motor boating. Of a jovial disposition, a born raconteur, with a heart as tender as a child, he stands today a living type of a group of men about whom the world has heard much but really knows little."

The Masury-Young Company of Boston, Mass., are manufacturing a specialty for the textile field known as Loom Lubrik. This is said to be very popular among many Southern mills.

Mill Conditions and Market Reviews.

Southern Mill Situation.

The tide has turned for the cotton mill men, and the country can afford to rejoice with them. Not in a decade have cotton mills of the South been more prosperous, some working overtime, some working night shifts, and practically all running full time. Last fall when cotton began going up and a good standard of price was maintained, the price of manufactured goods remained at low levels, the mill men in many instances having to pay 12 cents for cotton and sell their product on a basis of 5 cent cotton. This unwholesome condition continued throughout 1915, but cotton goods have now passed the raw product in the upward climb, and leading manufacturers state that conditions are good, and that practically all lines of industry are facing an altogether encouraging outlook.

JNO. L. PATTERSON, Manager of the Rosemary Mfg. Co., Roanoke Rapids, N. C., was called on by COTTON'S representative for an expression of opinion regarding mill conditions, and he said:

"Business in our particular line (cotton damask) has been very good for the past five months, and bids fair to continue so for some months to come. The business of the other mills in this vicinity has also been very satisfactory for the past five months, and I understand from the managers of those mills that they are very well sold ahead at fairly good prices."

Asked about the child labor question which has been agitated in Congress recently, Mr. Patterson said: "I heartily disapprove of any such legislation. In the first place, I believe it is dangerous, vicious and unconstitutional; and, second, the child labor question in the South is being worked out as rapidly as possible with justice to all through the cooperation of the operatives, mill owners and educational factors. With the increase of education and Christianity among the working classes, together with the just and honest cooperation of the mill owners, you will see the child labor question gradually solve itself, and at the same time other questions between capital and labor will be solved satisfactorily to both, provided outside corrupt influences are not allowed to influence in an unjust way the minds of the mill operatives."

ALF. A. THOMPSON, President and Treasurer of the Raleigh Cotton Mills, Raleigh, N. C., said to COTTON'S representative:

"About once in a decade manufacturers are blessed with market conditions such as are now prevailing throughout North America. In steel, everything from fish hooks to steel rails are in largest demand. In woolens, everything from petticoats to carpets find willing buyers. In cottons, the masses are calling for everything from spool cotton to overalls.

"From the Penobscot to San Diego, from Seattle to Miami, 'Bears' on anything are as 'scarce as hen's teeth.' Only a few can be found in the whole of Uncle Sam's dominion, and these few seem to have congregated in the Carolinas, chiefly among sellers of coarse single yarns. They seem to be playing the part of Rip Van Winkle and have not waked up yet. If these stirring times have failed to put life into them, it would pay mill interests to buy one of those 'Big Berths' from Germany and make a campaign over the state and 'wake 'em up.'"

Cotton goods dealers, exporters, and manufacturers generally are beginning organized efforts to fight the granting of independence to the Philippines on the ground that such an event would mean a loss to them and to the United States of millions of dollars in trade annually. A petition opposing the granting of freedom to the Philippines, and pointing out that an independent government would impose a tariff which would make competition difficult, is being circulated among managers of cotton mills in the South by Laurus Loomis, of New York, representative of large cotton interests. Signatures to the petition are being sought from the cotton states of Georgia, Mississippi, Alabama and the Carolinas, and cotton men in these states are being urged to bring to the attention of their representatives in Congress the trade loss the South would suffer through a tariff.

The petition practically in full follows:

In the first year of the American occupation, 1899, there was practically no imports of cotton goods from the United States. In 1915 there were $6,900,000 worth of cotton goods exported from this country to the Islands.

It may be surprising, but nevertheless true, in the same year 1915, this exceeded the total value of cotton goods shipped to the following countries: China, Arabia, Columbia, Chile and Brazil, a total value of $5,400,000. In other words, there was exported to the Philippine Islands 112,000,000 yards, compared with 95,700,000 yards to China, Arabia, Columbia, Chile and Brazil.

A large proportion of this is manufactured by the Southern cotton mills, shipped not only in the gray or unbleached state, but also bleached and printed for the use of the natives. This does not include over $1,000,000 in thread, hosiery, blankets and other articles of cotton manufacture.

The gain made by the United States in export trade with the Philippine Islands, from $16,000,000 in 1913 to $24,000,000 in 1914, was at the expense of the United Kingdom, France, Japan and Germany.

The total imports in the Islands in 1914 was $48,000,000, one-half of which was from the United States. The exports to this country were about the same proportion, or $49,000,000.

The manufacturers of the South cannot but view, with grave concern, the interference or destruction of this trade, which not only affects seriously the cotton manufacturers of the South, but also thousands of employees who work in the mills, and the cotton planters who supply the cotton.

Additions, improvements, new mills, etc., are noted as follows:

Announcement has been made from Gastonia, N. C., of the construction of a new mill for that place. The new plant is to have 6,500 spindles, for the manufacture of fine cotton yarns. C. B. Armstrong, President and Treasurer of the Clara and Dunn Mfg. Companies of Gastonia, and of the Monarch Cotton Mills, of Douglas, N. C., is the

organizer and leading stockholder. It is planned to have the mill ready for operation by January, 1917.

An enlargement will be made to the plant of the Sapona Cotton Mills, Cedar Falls, N. C., which started operations on March 1st in the plant of the Cedar Falls Mfg. Co. They are manufacturing osnaburgs and 12's to 30's carded yarns, with an equipment of 4,800 spindles and 96 looms. The office is at Asheboro, N. C., in charge of D. B. McCrary.

The Albany Cotton Mills, Albany, Georgia, have been taken over by the Flint River Cotton Mills, and will be operated by them. The capital stock is $250,000, the incorporators being E. F. Putney, E. E. Wetherbee, J. B. Pray and J. R. Wetherbee.

The Poinsett Mill Co., of Greenville, S. C., has bought the Carolina Mills of that place, the latter having been in the hands of a receiver for some time past. August W. Smith has been elected President and Treasurer, C. E. Hatch, Secretary, and A. G. Furman Vice-President and Asst. Treasurer. The capitalization is $600,000.

The Chattanooga (Tenn.) Aseptic Cotton Co. is having plans prepared for building a mill to replace that in which its plant was installed when recently destroyed by fire. It will be equipped with machinery for manufacturing absorbent cotton, surgical dressings, etc.

The Patterson Mills Co., Roanoke Rapids, N. C., will add 5,700 spindles. They now have 15,000 spindles on fancy ginghams.

Earnaldson Mfg. Co., of St. Paul, N. C., has been organized by A. R. Earnaldson and A. I. McDonald to build a cotton mill.

The Indian Head Mills of Alabama at Cardova, Ala., is to install a complete equipment of machinery for reworking all mill waste.

The Virginia Cotton Mills at Swepsonville, N. C., has ordered modern sewage disposal outfits to care for 118 families from the Sanitary Engineering Co., of Charlotte, N. C.

The Beverly Textile Mills at Beverly, N. J., is building an addition to the present plant. The building will be of brick, 50 x 75 feet, two stories high. This addition will contain, in addition to other machinery, forty new looms of different widths for the manufacture of specialties in cotton fabrics. This mill makes corrugated padding, bath mats, painters' cloths, wash-cloths, dish-cloths, scrub-cloths, and similar cotton specialties. John A. Bidwell is proprietor.

The Cannon Mfg. Co., at Kannapolis, N. C., has let contract to the Sanitary Engineering Co., of Charlotte, N. C., for the installation of 800 modern sewage disposal outfits to be installed at each of the operative's houses in their Kannapolis village and also at the Cabarrus Mill village in Concord, N. C.

The cotton pickery of S. Lesser at Augusta, Ga., was burned early in April entailing a loss of about $100,000, covered by insurance. Will rebuild immediately.

C. F. Mayes, the well known mill chemist at Greenville, S. C., moved into much larger quarters in the Palmetto Building May 1st. His steadily increasing number of mill accounts in the last six months necessitating this change.

The Mayodan Mills at Mayodan, N. C., has let contract to the Sanitary Engineering Co., of Charlotte, N. C., for 175 modern sewage disposal outfits to be installed at each of the operative's houses in their mill village at Mayodan.

Contract for building the recently-mentioned additional mill of the Meritas Mills, Columbus, Ga., has been awarded to T. C. Thompson & Co., of Charlotte, N. C. This new mill building will be 400 feet long by 125 feet wide and three stories high, to be equipped with 25,000 spindles and 5000 broad looms. Lockwood, Greene & Co., of Boston and Atlanta, are the architects-engineers in charge.

The plant of Walterboro (S. C.) Cotton Mills will be improved for the manufacture of cotton yarns; machinery will be installed. J. A. Smith and Walter Pringle, Gastonia, S. C., are interested.

The Fulton Cotton Mills at Athens, Ala., will double present capacity, erecting an addition 200 x 75 feet.

Application has been made for the incorporation of the Lavonia (Ga.) Cotton Manufacturing Co.; capital stock is $100,000, with privilege of increasing to not exceeding $500,000. X. Y. McCann, Macon, Ga., and others are the incorporators; the company has purchased and will operate a cotton mill at Lavonia.

New England Mill Situation.

A further advance in the wages of textile operatives in New England is underway, the second this year. It began by the announcement of the American Woolen Company and some other woolen and worsted concerns of an advance of 10 per cent to become effective April 17. It was followed by advances in some of the cotton mills and by demands formulated by the unions of New Bedford and Fall River for a 10 per cent increase. At this writing there is little doubt that the advances will be general but whether they will all be on a higher level remains to be seen. A 10 per cent advance would place mill wages higher than they have been in a great many years, and possibly higher than they have ever been.

The underlying cause of the new wage increase movement was the unrest among operatives referred to last month. It had become general and largely because costs have been rising and because the supply of labor is less than for many years. The demand is very much greater because of the activity in all kinds of textile mills, whether engaged in wool, silk, cotton, or finishing lines. Nothing like the present activity in New England textile mills has ever been witnessed. The inability of mills to run overtime in any large way is a serious handicap to those managers who oversold early this year in anticipation of finding help enough to run some departments at night. There is quite as much scarcity among skilled as unskilled help.

The slight immigration since the wars began has lessened the normal supply of operatives, or those who can be trained to do some parts of the work. Then again there has been a steady drain from the mills by many new industries that pay better wages for the time being. Machine shops are exceedingly busy and munition establishments of all sorts are sending out agents steadily to the mill districts trying to pick up workers who have some knowledge of machine operations. There is no prospect of a change in the labor situation for some time.

Many of the cotton mills are making unusual preparations to keep operatives in the mills during the summer. They have been using the poorer grades of cotton bought, during the winter months so that when the hot spell arrives

they will have better than ordinary grades of cotton to run in the machines. Again, some of them have been trying to induce operatives to take vacations at regular times. Some mills are trying to organize operatives to take their vacations at a stipulated tmie, say in the last week or two in August. Many mills will stop at that time and give the operatives a vacation, if in the meantime any large proportion remains at work.

The market conditions have been quite as favorable for the mills in the past month, so far as price maintenance goes. In fact several advances in prices have taken place, notably on the medium count carded goods, some of the print cloths, and nearly all of the fine combed yarn goods. Colored goods are very firm indeed. There was some easnig in the congestion of freight moving in and out of the section, yet much is still to be desired in that direction. Cotton has been coming to the mills that has been four months on the road, and there are instances of cloths not reaching their destination until six or eight weeks after shipment.

One of the most important developments going on is the growth in cooperation between mill managers in the matter of prices for goods. The leading gingham manufacturers have come together and have arrived at plans for the exchange of market information, to the end that much of the cut-throat competition will be avoided. Fall River has begun to work out plans for an open price association along the lines adopted by New Bedford fine goods manufacturers earlier in the year. It is very probable that when the time arrives for the opening of another season in napped goods, manufacturers will be found to be working in closer harmony than for many years.

Nothing is being done in the way of an agreement to fix prices or to bind manufacturers to a line of policy in selling. But there is an arrangement whereby sales information is exchanged, the most effective ones being those that are confessedly open price associations. One of the most interesting parts of this new development is that commission houses in New York are not working against the plans of manufacturers. In fact some of them are openly in favor of a better understanding to the end that buyers of goods shall not be so thoroughly disorganized in their ideas of values by senseless price cutting as they have been in some recent years.

When the new wage advance began about the 10th inst., selling agents of several of the large cotton goods mills withdrew goods from sale or placed them at value. This action was taken because mill men were unable to say just where values for goods would stand at the producing end if some of the demands of labor were acceded to. Several treasurers visited the New York markets to discuss the situation with the merchants. The woolen and worsted mills were in a market position that permitted them to make wage advances that would be compensated by advances easily obtainable for goods to be made. But many cotton mills had sold their summer product on the old wage basis and if a higher scale were to come into operation, it would entail a distinct cut into mill profits without any near prospect of market compensation in higher values for goods.

At this writing it is believed that higher prices for goods will come, even though many high prices of the last boom years have been overtopped. It is certain that further advances will be named shortly on ginghams, prints, and percales, and already, some of the fine goods mills have started to revise prices upward for any goods to be made after the middle of this year. The mills that have sold their full product into October, will have to take the wage loss as best they can.

Little that is new can be added to the story of good business told last month. New England has not seen such prosperity in her cotton mills since the early '80s as she is now enjoying. There were times in 1907 when prices were higher and when many goods were sold at very high prices. But at that time mills were not turning the book profits into money as fast as some of them have been doing in the past three months. Moreover, there seems to be a greater measure of confidence in the holding power of orders now than there was then. One reason for this is that mills are carrying the lightest stocks of goods they have ever owned.

One mill that had accumulated goods more or less for six years cleaned out the whole stock in the early months of this year. Another group that had held its goods for several years and refused to accept the low prices that were offered when the first quickening of trade came in 1915, has now less stock on hand than it has ever carried, even when its producing power was two-thirds less than at present. A great volume of cotton goods merchandise has been shipped from the country in the active period of the past several months and this factor in the situation is constantly being felt by commission houses and by jobbers all over the country.

Among financial factors in the mills there is a marked disposition to discourage the payment of any abnormal dividends. The disposition is shown to pay indebtedness and accumulate a reserve in anticipation of a reaction. It is quite true that many cotton manufacturers in this section do not look for anything more than a temporary setback after the war, as they contend that this country will be alone able for many months to continue supplying the demands of nations that have been at war and those that have not been. The thought that this country may be drawn into the war is not entertained as seriously as it has been in previous times when critical international conditions have held back cotton goods trading.

There have been three or four large orders for mill machinery to be shipped abroad dangled before some the the machinery concerns in the past few weeks. Some of the agents who have been here have been responsible, while others have merely been prospecting. There is so much domestic business to choose from that most machine shops want no foreign work. Indeed, the prices that domestic concerns will pay for prompt deliveries of new machinery are so high and so attractive that foreign orders can easily be passed. The Draper Company continues filled up with business on looms, and its other business is as large as can be handled. The American Machine Company of Pawtucket is stated to have more than a year's work in hand. The Saco-Lowell Shops are stated to be working to their capacity.

The printers and finishers have not yet begun to show signs of a summer easing. The demands for goods are steady and business is being tendered in advance of needs by converters whenever they are assured that certain desired colors will be guaranteed. The staple printers have never had a fuller run than in the past several months,

despite the many handicaps suffered because of a lack of assortment in colors.

The conditions on some lines of future business are quite abnormal. Some of the largest manufacturers of fine shirtings have sold up their whole product for the balance of this year and cannot take additional business at any figure. This is also true of several of the fancy goods mills, particularly that part engaged in producing the highest priced novelties. During the past three weeks one of the small converters placed orders for 25,000 pieces of cotton goods novelties for delivery through November, and none of the goods cost less at the mill than 24½ cents a yard. Some of them cost over 40 cents. Curiously enough, this same converter has already sold a large part of this product to importers who will take these high priced domestic nomelties in lieu of the Austrian and French goods usually handled by them.

The Yarn Market.

The close of March showed a fair activity in the Philadelphia yarn market and with strong indications that the market would continue in favor of the seller. Fine combed yarns were scarce and prices were mounting higher, while single combed yarns seemed inclined to follow. Carded knitting yarns were quoted at somewhat higher prices and there were many inquiries in the market for light weight yarns of this character. While the weavers were feeling the effect of a scarcity of dyes and the strike of the dyers. two-ply weaving yarns stiffened in price, but single yarns for weaving purposes continued somewhat draggy.

The heads of a great many yarn houses were in attendance at the meeting of the American Cotton Manufacturers' Association at Atlanta and there was a decided feeling afloat that preparations were being made to stiffen carded yarn prices as a result of this consultation. There were others, however, who claimed that these rumors were all "bosh" and one man stated that cotton manufacturing in yarns or piece goods could never become a monopoly because it was a physical impossibility to get manufacturers to agree to any one line of procedure.

April showed a good demand for spot yarns, particularly in combed yarns, although the prices were somewhat irregular. Two-ply combed yarn in the gray on skeins, on cones and in warps were sold at a variety of prices. Southern frame spun 10's two-ply combed peeler for summer delivery 33½ cents; 12's two-ply Southern frame spun combed peeler skeins summer delivery 34 cents; 30's two-ply on cones 43 to 45 cents; 38's two-ply warps mercerizing twist 46 cents; 60's two-ply on cones 65 to 68½ cents; 70's two-ply on cones 70 to 75 cents; and 80's two-ply on cones 80 to 83 cents. It is reported that dealers paid spinners as high as 50 cents for 40's two-ply Southern frame spun combed peeler on cones and 60 cents for 50's two-ply of the same quality, for future delivery.

Carded yarns on cones was in demand at a price and there were quite a number of inquiries in the market for yarns of this character on cones, chiefly for export.

Following are some middle-of-the-month quotations on the Philadelphia market:

Southern Single Skeins.

8s	19½ @20	10s	20
14s	21½ @	16s	21½ @22
26s	24 @24½	30s	28½
20s	22 @22½	24s	24

Southern Single Warps.

8s	19½ @20	10s	20 @20½
12s	21 @21½	14s	21½ @
16s	21½ @22	20s	22 @22½
24s	24½	26s	24½ @25
30s	28½ @29	40s	38

Carpet and Upholstery Yarns in Skeins.

8-4 slack	19½ @20	9-4 hard	20 @20½
8-3-4 hard twist	19½ @19½		

Southern Two-Ply Skeins.

8s	20 @21	10s	20½
12s	21½ @	14s	22
16s	22½ @23	20s	24½ @25
24s	27 @27½	26s	28 @28½
30s	30 @30½	40s	38 @39½
50s	49 @50		

Southern Two-Ply Warps.

8s	20 @20½	10s	21
12s	22	14s	22½
16s	23 @23½	20s	25 @25½
24s	27½ @28	26s	28½ @29
30s	30 @30½	40s	39 @42
50s	50 @51		

Northern Two-Ply Carded Peeler Skeins.

20s	28 @28½	24s	29½ @30
26s	29½ @30	30s	32 @33
36s	36 @37	40s	42 @44
50s	50 @52	60s	60 @62

Two-Ply Combed Peeler Skeins.

20s	34 @35	24s	36 @37
30s	43 @45	40s	48 @51
50s	57 @60	60s	67 @69
70s	75 @78	80s	84 @88

Southern Frame Spun Yarn on Cones.

8s	19½ @20½	10s	20½ @21
12s	21 @21½	14s	21½ @22
16s	22 @22½	18s	22½ @23
20s	22½ @23	22s	23
24s	23½ @24	26s	24 @24½
30s	26 @27		

Northern Mule Spun Carded Yarn on Cones.

10s	22 @22½	12s	22½ @23
14s	23 @23½	16s	3½ @24
18s	24 @24½	20s	24½ @25
24s	25½ @26	30s	28 @29
40s	38 @39		

Northern Mule Spun Combed Peeler Yarn on Cones.

10s	29 @29½	12s	29½ @30
14s	30 @30½	16s	30½ @31
18s	31 @31½	20s	32 @32½
22s	32½ @33	26s	32½ @33½
30s	39 @40	36s	43 @44
40s	45 @46		

Cotton Comment.

BY H. AND B. BEER.

New Orleans, April 11th., 1916.

As it was not until April 1st, that the prolonged drouth in the Southwest was broken effectually by general, heavy rains over Texas and Oklahoma, preparations for the new crop are very backward, and have been made more so by the cold weather experienced in all sections of the belt during the past week.

However, the rains were of vast benefit in all districts of the cotton region, especially in Texas and Oklahoma, which is a redeeming feature of the situation, as a few days of dry, warm weather will permit planting operations to be pushed rapidly.

By reason of the long dry spell in Texas and Oklahoma, and the hard freezes in February, a large percentage of the wheat and oat crops was lost, consequently the increase in the cotton acreage west of the Mississippi river this year will be larger than originally intended. Private reports indicate an average increase in the acreage of about 8 per cent in the belt as a whole, and the increase may eventually reach 10 per cent. Last year the average decrease for the belt was about 17 per cent. Therefore, indications are for a moderate increase only.

On the other hand there will likely be a moderate increase in the consumption of American cotton by the world next season, as this season's consumption will probably be larger than last year's, and next season's requirements are likely to be in excess of what they were this season, especially if the war is over in another year or so.

With the new crop late in getting a start in Texas, and

rather backward in other sections of the belt owing to the late spring, almost perfect weather conditions will be necessary for the making of a moderate size crop of about 14,500,000 bales, which the trade will probably need next season, and as there is no assurance of climatic conditions being ideal during the planting, growing and maturing periods, another short crop is within the bounds of possibility.

There is more than enough of old crop cotton to last until the new crop matures, but of this supply most of it is in America, and although buying only from hand to mouth, there is always some demand for European account. Stocks in the United States are about the same as they were at this time last year, but the visible supply of American cotton in Europe is about 2,000,000 bales smaller than one year ago.

Realizing the advantage of their position Southern spot owners continue to hold fast to their cotton, knowing that Europe and American mills must, of necessity, continue to buy; first because of the light stocks abroad, secondly owing to the extraordinary demand for cotton goods in the United States. Therefore, there is little liklihood of the market declining very much unless something serious of a political nature should develop, and things appear to be more favorable so far as this country is concerned.

That there will probably be numerous crop scares this year, as they have been in previous years, particularly when the supply of good seed in the South is reported to be scarce, goes without saying, and if replanting of any consequence is made necessary by the coming of another cold wave later in the spring, which sometimes happens, a serious proposition may arise since seed for replanting would be expensive to obtain.

Another feature in connection with the making of the new crop, is the fact that at the opening of this season the weevils cover an area 80,000 square miles larger than they did at this time one year ago, and have invaded about one-third of Georgia, or about 36 counties of the western portion of the state, whereas at this time last year they had not yet entered Georgia.

Fertilizers are to be used in smaller quantities, even less than last season, and without sufficient plant food, and an inferior quality at that, a prolific production of the staple is out of the question.

Announcement.

The Link-Belt Company, Chicago-Indianapolis, manufacturers of the Link-Belt silent chain drive, extensively used in textile mills for the transmission of power, will be represented hereafter in the states of North and South Carolina by J. S. Cothran, 200 Commercial Bank Building, Charlotte, North Carolina.

Link-Belt silent chain is a modern method of transmitting power from line shafting to machine or from motor to machine. It has the flexible qualities of the leather belt, and the positive action of spur gears. It is said to be 98 per cent efficient throughout its life.

Mr. Cothran is the newest of the Link-Belt service men, now located at convenient points throughout the country. He will be ready and willing to discuss power transmission problems.

He is distributing copies of the 112-page Link-Belt silent chain data book No. 125, which contains the only price list ever published on this product.

An Important Change Being Made by L. O. Koven & Brother.

The firm of L. O. Koven & Brother will in a short time (perhaps within the next month) remove its main office from 50 Cliff Street, New York, to 154 Ogden Avenue, Jersey City, N. J. This change has been in contemplation for some time. A year ago the firm started to reconstruct a building which it had purchased several years ago. This building is on Ogden Avenue opposite Ferry Street, Jersey City Heights, and will be known as No. 154 Ogden Avenue. The building has a frontage of about 60 feet on Ogden Avenue by 115 feet deep. There are four floors, including the basement. The basement is arranged for a vault, size about 20 by 40 feet, boiler rooms, storerooms, showrooms, etc. On the first floor will be the general office, private office, sales office and reception room. On the second floor will be general office of the Engineering Department, Chief Engineer's office, reception room, estimating office and laboratory. The use to which the top floor will be put has not yet been determined.

Entrance to the building will be through heavy iron doors with plate glass panels having protecting wrought iron grills, and then through revolving doors into the entrance hall. The entrance hall is finished in marble and hardwood. All of the finishing of the offices is in oak. There are front and rear stairways of iron, the treads and trim being of marble. The plumbing in the building is very ample, the toilet rooms being finished in marble, and toilet and the fixtures are all porcelain. The building is supplied with hot and cold water throughout, and electric apparatus for many purposes. There is also a vacuum cleaner installation in the basement, with pipe system throughout the whole building. An automatic interior telephone system will be installed and special arrangements have been made for carrying papers and packages through the building. The system of lighting will be by the Bascolite electric system.

In a process for giving to cotton fabrics a silky lustre resistant to water and soap the fabrics are "oxidized" before calendering. (Fr. pat. 464,114). The solution for moistening the cloth before the calendering may consist of hydrogen peroxide, bicromate of potash, or other oxidising agents. When hydrogen peroxide is used 5 to 35 parts by volume of a 10 per cent solution are employed to 100 parts water. In this case it is advantageous to add a small amount of ammonia or of dissolved soap. When bicromate of potash is chosen as the oxidizing agent, a solution is used containing 100-250 grammes in 100 litres of water along with a small quantity of sulphuric or hydrochloric acid. After the fabric has been suitably and adequately treated with the solution of the oxidizing agent, by impregnating or sprinkling, it is calendered under pressure, and with the application of heat in the manner customary when lustring. The lustre is subsequently fixed by moist stoving or by passing the goods through water or a solution of soap. In most cases it is useful to dry the fabric impregnated with the solution of the oxidizing agent, (bichromate of potash, a salt of copper, etc.), and then to proceed with the calendering. Calendering the material in the dried state offers the advantage of avoiding shrinkage.—*Textile Mercury.*

COTTON MANUFACTURING.

A Winding Room Experience.

BY A. M. OLIVER.

Diversified questions are put up to an efficiency man in a cotton mill that require a knowledge of something more than the art of using a stop-watch and the ability to record results. A time study man's function is primarily to standardize existing conditions in an operation and so unite them that they will interlock and make a smooth running department. This is analogous to the part played by a mechanic when he fits and sets up a machine in a shop.

An efficiency engineer must not only combine the part of the time study man, but he must have the ability to take the existing evils in a department in a cotton mill and so change and correct them that a greater production will be gained, that the percentage of waste will be reduced, and both accomplished at a resultant saving in cost per pound of labor involved. This is illustrated by an example occurring in a winding room in a mill where I was working on scientific management. This room was equipped with Universal winders of a late design and was winding 1/16's cotton onto 1¼ inch wood centers, making a finished package of 1.96 pounds net, which was put into a warper creel and two sets taken off of 12,000 yards each, leaving about 10 per cent return on the wood centers, which allowed for any variation in counts of yarn manufactured and also allowed for variation in the calipering of the finished packages.

This department had been previously systematized by time study men who had changed the method of paying the winder hands from a piece rate of so much per box of yarn, to a bonus rate of so many finished packages per day. This method was working well and the former time study man had made a good showing in the cost reduction; so no fault could be found in that direction. These men had also experimented with the spindle speed to find the point where production was combined with the least comparative amount of yarn breakage and without an excessive amount of wear and vibration to the winder and set a standard of 1400 r.p.m. Let me say right here that I have found in my experience that the best working speeds of most machines vary greatly from that recommended by the machine builders. Every one must take into consideration the grade of the staple of cotton and the quality of yarn run in connection with the condition and quality of the machine, not forgetting that machine builders are primarily interested in selling the greatest number of their machines.

The conditions that I found after investigating the department were as follows:

High percentage of waste due to the yarn slubbing over the ends of the packages in the process of winding or in transit to the creel, or in the creel.

The management wished to increase the production of this department to meet needs of the dress room and did not want to buy more winders unless necessary. The management also felt that this process was more expensive in many ways than the old operation of spooling which it had displaced. Above all, the management informed me that they would not stand for more than a 5 per cent increase on the winder's schedule and moreover they did not want any labor trouble or dissatisfaction.

After I had studied the winding operation and become thoroughly familiar with its details, I suggested that the winders be set to make an open or honeycombed wind as far as the machine adjustment would allow. This made a reduction in the package waste of 65 per cent and up to this time everyone had believed in a close wind and hard package mainly because they had looked at production tests alone.

I saw that this change would probably increase my labor cost per pound rather than reduce it. Anyone familiar with a Universal winder knows that the spindle speed is constant, but that the winding speed of the yarn increases with the increase of diameter of the package as it is built up. This means that the machine time to wind the first 12,000 yards is much greater than the time taken to wind the last 12,000 yards. This fact led to experiments being made with larger wood centers and finally a 2⅜ inch wood center cored to a ⅜ inch shell and bushed to reduce its weight, was adopted. This reduced the machine time of winding nearly 20 per cent. It would, however, be folly for any man, especially an efficiency man, to tell a winder hand that she is obliged to fill the same number of packages a day on 20 per cent less spindles even if he could convince her that she was not doing more work, and due to the slightly increased outside diameter of the finished package, it would be asking too much to expect an operative to cooperate, even in a mild way.

It was found that the space in the creel of the warper and that the traverse guide swung back far enough to allow winding 12,000 yards more on the package and thus allow for 3 sets of 12,000 yards each being taken off from one tie-over in the creel. This caused more breakage in the creel at the start of the first set but it was found that by tapering and smoothing the ends of the skewers which held the packages in the creels, that we decreased the average breaks per beam per tie-over to normal amount. It was also noted that the beams pulled off as evenly on the slashers as before, as shown by the waste report of the dress room.

It is apparent that the operation of winding from the operative's standpoint is a knot-tying proposition entirely, combined with the placing of a full bobbin in place of the emptied one on the spindle below. With the changes enumerated, it was an easy matter for an instructor or time study man to go on with one girl and show her that due to the many changes being made, a new task had been made in place of the old one. She could also be shown that we wanted her to turn a smaller number of spindles and that the number of packages to be produced was less. In starting this task I selected a winder hand who made an honest attempt and no trouble was experienced in changing the task to the new way.

This is what resulted: 65 per cent reduction in winding room waste; 10 per cent reduction in winding costs, due to

increasing the number of knots tied per operative, per day; 20 per cent increase in room production due to the increase of pounds per spindle; 33⅓ per cent decrease in cost of tying-over; 20 per cent reduction in ratio of overhead expense, as it was found that the present quota of general help was sufficient to care for the increased work of the department; increase in warper production due to cutting down the tying-over time 33⅓ per cent; and last, satisfied workers.

Designs For Fancy Cotton Fabrics.

BY T. WOODHOUSE AND J. IRELAND.

PART TWENTY-NINE.

The cloth illustrated in Fig. 130 is very simple in structure, but nevertheless the fabric has a very pleasing effect. The warp is white with 56 threads per inch, while the filling is green with 56 picks per inch. Running diagonally to the right from selvage to selvage, or twilling as it is usually termed, is a series of very simple twills, and parallel to these twills is a broader diagonal formed of small

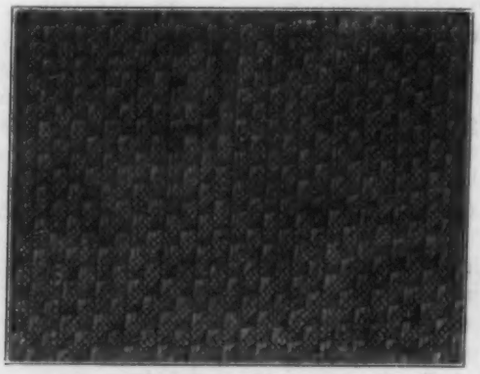


FIG. 130.

triangular blocks of warp and filling. The bases of the two sets of triangular figures join up neatly to the two sides of the simple twills. The points of the two sets of triangles thus fit neatly into each other, and hence the triangles form a kind of step effect on the cloth.

The design is complete on 10 threads and 10 picks as illustrated by the solid marks in Fig. 131, in which figure four repeats are shown at T. Since no two threads in the repeat are similar; it follows that 10 harnesses are required, and that the draft is straight as indicated at *U* which shows two repeats. It is clear that the weaving plan in this case is identical with the design since no reduction in the draft is possible.

The units which constitute the pattern in Fig. 130 are utilized in the formation of the design for the pattern illustrated in Fig. 132, but, whereas in Fig. 130 the units are all arranged in twill form, the same units in Fig. 132 form a combination of diamond and triangles in 4-thread broken twill order. Thus, on reference to the design, four repeats of which appear at V in Fig. 133, it will be seen that two of the warp triangles twill to the right inside a diamond foundation on 16 threads and 16 picks, while the next two warp triangles twill to the left in another similarly-sized diamond foundation. The weft triangles are obviously oppositely directed.

The design could of course be constructed by first making the diamond foundation on 16 threads and 16 picks, and afterwards inserting the warp triangles in their proper order, but probably the simplest method of construction is that suggested by the unit pattern shown in solid marks.

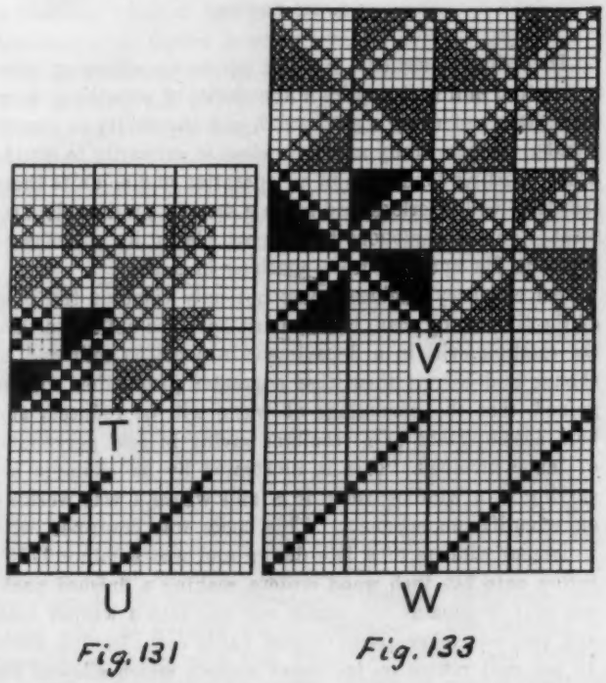


Fig. 131 Fig. 133

Thus, the first block on 8 threads and 8 picks is very simple, consisting as it does of a straight fundamental twill on 8 threads, and a solid triangle to the right. The second horizontal block, *i.e.*, threads 9 to 16 and 8 picks is simply the first 8 threads and picks turned over with marks in place of blanks and *vice versa*, while picks 9 to 16 are picks

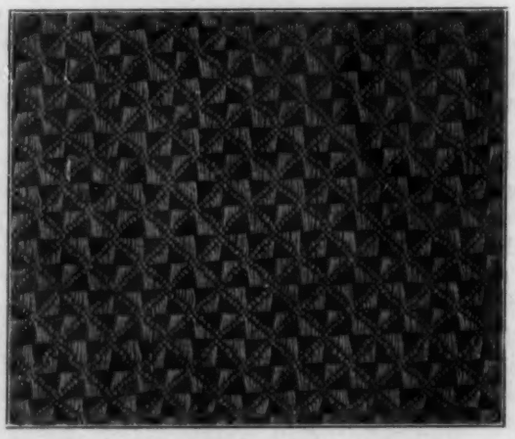


FIG. 132.

1 to 8 turned over in a similar way but reading picks instead of threads. It will thus be seen that the apices of the four triangles meet, and that this common joint forms the center of each diamond as is plainly emphasized when a few repeats of the pattern are made as in Fig. 133.

The particulars for the warp and the filling are the same as those for Fig. 130. The unit design is again the weaving plan since all the 16 threads weave in different

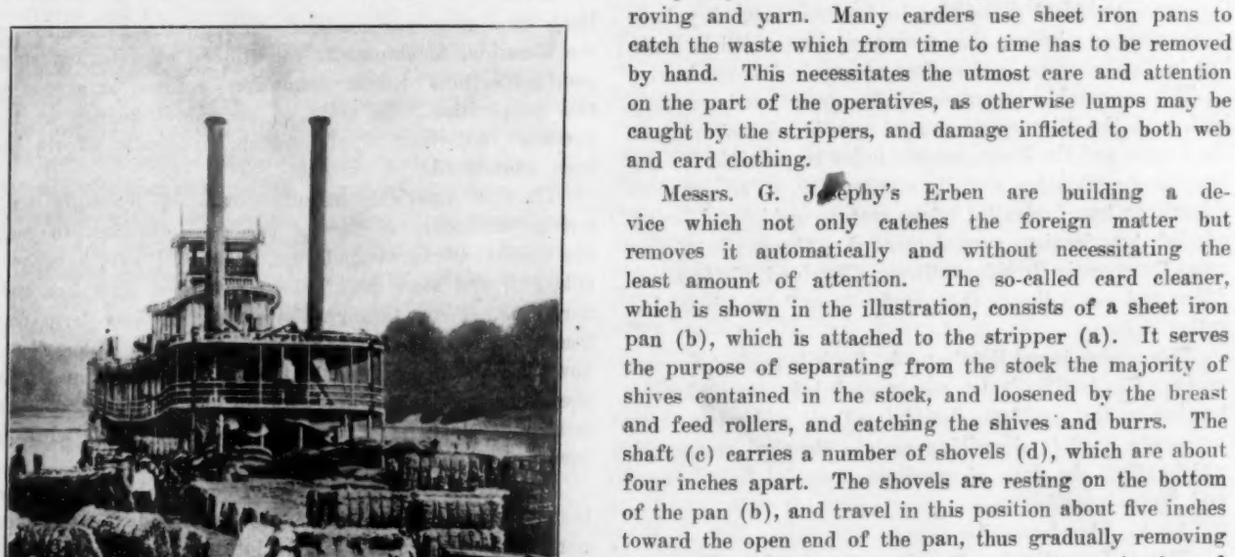
orders. The draft is therefore straight over 16 harnesses as exemplified by the two repeats at *W*, Fig. 133.

In patterns such as those illustrated in Fig. 130 and 132, the best results obtain when the warp and the filling are approximately of the same count, and when the number of threads per inch is equal to the number of picks per inch.

(To be continued.)

Belting of Rubber and Cotton.

An increased percentage of the five miles of rubber belting that leaves the B. F. Goodrich factory every week, locates permanently on the pulleys of the textile mills in the South. The cotton mill men are realizing more than ever before, the advantages of rubber belting, and the fact that they are boosting their own industry. Goodrich "Pinnacle" belting should really be called "cotton belting," for in reality, it is two-thirds cotton. The cotton mills in the South alone purchase approximately $1,000,000 worth of belting per year. A South Carolina mill man expressed the situation exactly when he said, "Uncle Sam loans England money and then gets the same money back again for munitions—now why shouldn't the cotton mill men bring their dollars back home in the form of rubber-belting?" The cotton duck in the Goodrich "Pinnacle" belting is thoroughly impregnated with rubber, stretched by hydraulic pressure and put through special processes by chemists who lead in the rubber world. This product is notable for its freedom from shrinking, together with flexibility, reduced cost and increased service.

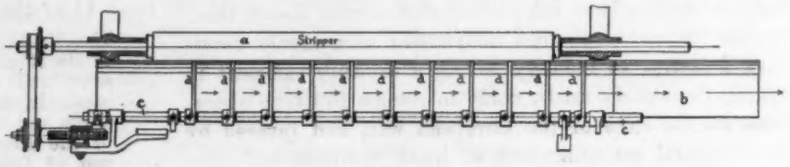


A Shipment of "Pinnacle" Belting on a Mississippi Wharf.

Patent Card Cleaner.

The elimination of burrs and shives from wool, cotton, or other textile fibers has always been and still is a problem for many a carder and mill owner. Burrs and shives in the stock not only cause unevenness in the roving, and trouble on the mule or frame, but their presence in the yarn results in a chain of inconveniences, loss of time, breakage, etc., on the weaving and knitting machines.

It is a well-known fact that the first and second strippers of the cards throw out a large amount of shives, etc., which drop on the rollers below, and pass through the machines, or else remain in the card clothing, thus injuring the quality of the web, and consequently the quality of the roving and yarn. Many carders use sheet iron pans to catch the waste which from time to time has to be removed by hand. This necessitates the utmost care and attention on the part of the operatives, as otherwise lumps may be caught by the strippers, and damage inflicted to both web and card clothing.



Patent Card Cleaner.

Messrs. G. Josephy's Erben are building a device which not only catches the foreign matter but removes it automatically and without necessitating the least amount of attention. The so-called card cleaner, which is shown in the illustration, consists of a sheet iron pan (b), which is attached to the stripper (a). It serves the purpose of separating from the stock the majority of shives contained in the stock, and loosened by the breast and feed rollers, and catching the shives and burrs. The shaft (c) carries a number of shovels (d), which are about four inches apart. The shovels are resting on the bottom of the pan (b), and travel in this position about five inches toward the open end of the pan, thus gradually removing the waste and dropping it into the waste box. At the end of their five-inch trip, the shovels are lifted from the pan and returned to their starting point, where they are again lowered into the pan, and resume their work. This motion of traveling, lifting and reversing is performed fast enough to prevent the gathering of any considerable amount of waste which might injure the work of the cards.

The card cleaner can easily be attached to any system of carding machines, and its efficiency and stability have secured many friends among mill men all over the world. Josephy's patent card cleaner is now being built in this country by the Lehnert Textile Company, 184 Summer street, Boston, Mass., who are the representatives of Messrs. G. Josephy's Erben. The American-made products which are being distributed by the Lehnert Textile Company do not in the least lack the high-class workmanship for which the factory of G. Josephy's Erben is well known.

Dyeing, Bleaching and Finishing.

The Dyestuff Situation.*

BY DR. CHARLES H. HERTY.

An astounding situation presents itself today to the American nation. Industries, whose annual output is valued at billions of dollars and whose laborers number millions of American citizens, find themselves directly faced with a most serious crisis due to the cessation of shipments of dyestuffs from Germany, our chief source of such products before the outbreak of the European war.

To meet this situation American manufacturers and capitalists have stood ready to proceed with all possible haste to the development of a national, self-contained dyestuff industry. They ask only that Congress insure them against the unjust foreign competition of a highly developed industry, an industry having a capacity sufficient to supply the world's needs, ready to resume full time operations on the close of the European war, and favored by governmental encouragement of trade "conventions." Our manufacturers rightly realize that such competition cannot be met on even terms for several years, for, in addition to the usual technical difficulties to be overcome, they have every reason to believe that such competition will be ruthless in its character in the effort to regain lost markets.

This reasonable assurance by Congress has been withheld, and the Democratic party, now in control of both the Senate and the House, stands today responsible for this humiliating situation and its continuance. Partisan considerations have prevailed where statesmanship and broad-minded Americanism were demanded. The words of that great Democratic President, Grover Cleveland, "It is a condition and not a theory that confronts us," have been forgotten.

This charge is not lightly made, for it is against my own party. To justify it let me trace briefly the influences bearing on this problem, classifying these under two terms commonly used in describing certain chemical compounds which affect the fate of reactions, namely, "accelerants" and "retardants."

As to "Accelerants"—

First: Immediately after the outbreak of the European war, the New York Section of the American Chemical Society, foreseeing economic distress, appointed a committee of experts to study the dyestuff problem. Its report recommended such tariff increases as were considered to be the minimum for the development of a self-contained domestic industry, these tariffs to be supplemented by an effective anti-dump clause. The report, unanimously adopted by the section, was promptly communicated to Congress through the courtesy of Hon. Samuel Wallin, Congressman from New York. It was printed in the Congressional Record of December 10, 1914, and was there allowed to remain in peaceful sleep, as German dyestuffs continued to reach this country in normal quantities.

Second: A few months later came the British Orders-in-Council and the embargo on dyestuffs by Germany. Consumers of dyestuffs turned naturally, therefore, to the Department of State in Washington, whose officers exerted every effort to secure such modifications of these measures as would enable resumption of shipments of this much needed material. These efforts were partially successful so far as Great Britain was concerned, but, Germany, possessing a practical monopoly of the dyestuff industry, preferred to use this as a club against America and the nations with whom she is at war rather than to allow the shipments to proceed as an ordinary commercial transaction. In support of this statement I quote the words, in translation, of the editor of the Chemische Zeitschrift, on page 44 of the number dated April 1, 1915:

> The North American Government makes no secret of its English sympathies, and favors the trade in arms and munitions with our enemies when and where it can. We possess, however, in German dyestuffs and chemicals a most excellent weapon. Most of the American textile mills, dependent upon the use of German dyestuffs, with their hundreds of thousands of workmen, will be compelled to shut down in case of complete withdrawal of these products.

Later this view was modified, through the necessities of the situation, to shipments conditioned on returned shipment of cotton. England, however, refused to accede to this proposition. In spite of occasional flurries in the press all hope for relief through diplomatic efforts has been abandoned.

Third: American manufacturers of dyestuffs have striven earnestly, as far as prudence dictated, to meet the unusual demands made upon them. Plants have been enlarged, and some relief along restricted lines has been furnished, chiefly through the agency of long term contracts where such a method was practicable. This method, however, is capable of only limited application and hope does not lie along such lines for an intelligent and comprehensive development of an industry commensurate with our needs.

Fourth: A limited number of new establishments have begun operations, but these are concerned for the most part with the production of "intermediates" and not of finished dyestuffs. An early closing of the European war would result in the prompt crushing of most of these new establishments by the German monopoly unless protective national legislation be enacted.

Fifth: On December 6, 1915, the opening day of Congress, Representative Hill of Connecticut introduced a bill, H. R. 702, to encourage the upbuilding of a domestic dyestuff industry by higher tariff rates. This bill is simply the embodiment in legal form of the rates recommended by the New York Section of the American Chemical Society. On January 14th and 15th hearings were held on this bill, and the remarkable sight was there presented of manufacturers and consumers with practical unanimity urging the immediate passage of the measure, and assuring in case of its passage abundance of capital, raw material, and technical skill to effect the immediate expansion of the

*An address delivered before the American Cotton Manufacturers Association at Atlanta, Georgia.
†President of the American Chemical Society.

industry. During these hearings an extremely important point was developed through the clear exposition of the intimate relation between the dyestuff industry and the supply of high explosives for our army and navy. Strong endorsement was recently given by General Scott, the Acting-Secretary of War.

Nearly three months have elapsed since the hearings were held. Meanwhile, the industrial distress has grown daily more acute, and today that bill, the only legislative proposal on this subject before Congress, is effectively "pigeonholed." Why? Because the "Retardants" have proven more powerful than the "Accelerants."

As to "Retardants"—

These are of a two-fold character, technical and political. I need not tax your time with a recounting of the technical difficulties which confront the manufacturer of dyestuffs in this country—the inadequacy of the literature, the consequent prolonged experimentation in the plant to reach efficient manufacture, and the necessity of developing many lines of dyestuff manufacture before full utilization of by-products can be hoped for. Such points have been discussed in thorough detail in the technical press. The knowledge of such handicaps has naturally led manufacturers familiar with the industry to wait upon more favorable Congressional attitude before assuming responsibility for the millions of dollars which will be required as capital to supply our needs in this line.

The political "Retardants" include the Secretary of Commerce and the Democratic majority of the Ways and Means Committee of the House.

First: The Secretary of Commerce, through the press bulletins of the members of his department, has regaled the country for months with remarkable but ever evanescent new sources of dyestuffs and with continued ill-founded optimism suggestive of rainbow-chasing. He stands today utterly opposed to anything suggestive of protection. Let me quote from the testimony of your own distinguished member, Fuller E. Callaway, at the hearings on the Hill bill, page 82, line 16, of the printed report of the hearings:

> He (Mr. Redfield) said he would oppose this. He spoke as if he would not let the President sign this even if you passed it. (Laughter.) I have not misstated this. (Laughter.)''

On the other hand, the Secretary insists that an anti-dumping clause is all sufficient. I agree fully in the need of such legislation, for we must not fool ourselves with assuring thoughts of ordinary commercial competition when we remember that this competition will come from that nation which first introduced into warefare the use of asphyxiating gases and liquid fire. Nevertheless I cannot agree with the contention that this is the only legislation required, and, further, the fact that this contention has been vigorously proclaimed for nearly a year with no enthusiastic response on the part of manufacturers, demonstrates that this is not the logical first-aid which this grave situation calls for. Manufacturers say, "Give us the tariff and we will at once proceed with enlargement. Then give us the anti-dumping clause."

The situation suggests an inrush of citizens into a car-barn, seeking quick transportation to a distant conflagration. On one track stands a trolley car (the tariff); on another, a trailer (anti-dumping clause). In the absence of an effective word from the superintendent, an assistant superintendent mounts the platform of the trailer, calls, "All-aboard!" and insists that such is adequate; while his passengers urge that he transfer to the trolley car and hook up the needed trailer in its logical position. But all to no avail. Meanwhile the conflagration proceeds.

In all seriousness, the attitude of the Secretary of Commerce is in strange contrast to the attitude of the men of commerce in this country who on February 10, 1916 through their national organization, the Chamber of Commerce of the United States, at its fourth annual meeting in Washington City, adopted resolutions not only in favor of legislation against Dumping but endorsing Industrial Protection for those industries which in the national public interest should be developed.

The latest move has been the holding of a secret meeting in New York City, upon the invitation of an official of the Department of Commerce, between this official and representatives of the manufacturers and the consumers of dyestuffs. I was reported by many of the newspapers as being present at that meeting. I was not. I was in Chapel Hill, N. C., at the time. I was not present for two reasons: first, I was not invited; second, I should not have attended even if invited, because I see no reason, as at present informed, for any secrecy in the discussion of measures of grave economic import.

Second: The Democratic majority of the Ways and Means Committee refuses to allow the Hill bill to come out of the committee onto the floor of the House. Surely this is trifling with a serious national disaster. If the bill, now in their safe keeping, is not considered a proper bill, is not the country entitled to a better substitute which will at the same time commend itself to those who will have to take the financial risks in this industry. Is this whole matter to be allowed to drift simply because the word "protection" has been used? Would I not be foolish to forbid the firemen to turn water on my burning home simply because I feared the presence of typhoid germs? Turn on the water, Gentlemen of the Committee, and turn it on quickly! We will look into the germ question later on. It is vitally essential that something be done promptly.

That the requests for a higher tariff is not without warrant is shown by the fact that the British and Japanese governments promptly recognized the peculiar claims of the dyestuff industry upon governmental aid, and already in both countries the industry, on a scale sufficient for home needs, is well under way, supported by government loans of capital interest guaranteees, and tariffs. Are we alone to be left at the close of the war in the hands of the German monopoly of synthetic dyestuffs? Can we hope to build up a great export business in colored cotton goods, or even a satisfactory domestic supply, with England and Japan freed from commercial dependence on the German dyestuff industry, while we, through our representatives in Washington, deliberately retain the shackles which gall us even now and of whose real enslaving power we have not yet begun to see the possbilities? At the hearings on the Hill bill I made this statement in answer to a question by Mr. Hull of Tennessee: "I think they (the Germans) have a valuable weapon in their control of the world's supply of that commodity (synthetic dyestuffs), and they are going to use it. In confirmation of that opinion let me quote in translated form from an article by G. Stein. This

article occupies the most prominent position in the most recent issue of the Farber-Zeitung received in this country. This journal is published in Berlin and bears the date February 1, 1916. The article is found on page 33 (the first page) of Part 3 of Volume 27. I do not know who G. Stein is, and, of course, these quotations are simply his opinion, but the prominence given the article in such a leading dyestuffs journal suggests that the views are fairly representative. Let me quote among other things the following extracts:

> The German coal-tar dyestuff industry ought, after the conclusion of peace, to be permitted to sell dyestuffs only in Germany and Austria, in Turkey and Bulgaria, until the German textile factories are again fully occupied and all warehouses and stores and all consumers are again supplied with good white, dyed, and printed goods. Only then would it be permissible to furnish German coal-tar dyestuffs to neutral or hostile foreign countries.

Again—

> If foreign countries begin again too soon to receive good German coal-tar dyestuffs, they might easily ruin the business of the German export trade in finished products.

Now listen to this, for we are included in this indictment—

> Likewise, no human being, of course, can give guarantees for the integrity, after the war, of the dyeing establishments, printing establishments, dealers in dyestuffs, and consumers, in hostile and neutral countries.

And again—

> The two branches of industry, that of coal-tar dyestuffs and the textile industry for finished products, find it to their interest to proceed hand in hand and to adopt similar measures.

And finally this, which is launched particularly against us—

> For the German coal-tar dyestuff industry there are probably two other points to be considered: first, this industry and the German industry in coal-tar products would for the present have no right to sell raw material and by-products to foreign countries, in order not to create unnecessary competition; and besides, it would be permissible to furnish dyestuffs to America only if the American government should promise to bury for a long time the unjustifiable so-called anti-trust question in connection with aniline dye interests.

These are not idle phantasies of my imigination. These are thoughts boldly expressed in a leading German dyestuffs journal, which I hold before you. What do you think of them, gentlemen? What bearing do they have on the great industry you represent? Do they not forebode evil to each one of you, whether your output be colored goods or gray goods? Is it not time to get busy? Should we not let our Southern Democratic Congressmen know that we expect better things of them than that they should aid in bringing about the realities of such a situation as is here portrayed? Is it not wisdom for American textile interests to co-operate in every way with American dyestuff manufacturers, actual and potential, in the rapid, intelligent, and scientific upbuilding of a domestic industry sufficient in every way for our needs?

As I dwell on such thoughts my heart and mind turn back to that noble sentence uttered by President Wilson in his Manhattan Club address on "Preparedness" last November—"For ourselpes we ask nothing but the full liberty of self-development" and a great longing fills me that we would follow that thought to its logical conclusion, which is "Industrial Freedom" in times of peace and "Industrial Preparedness" in times of war, on both of which the maximum efficiency of our army and navy must so largely depend.

In conclusion let me suggest a program of Congressional legislation which will fully meet every emergency of the situation. This program consists of three distinct features, each inadequate in itself, but together they would constitute, I believe, an unquestionable guarantee of a self-contained industry on which we could forever rely. I mention these three in the order of their relative urgency:—

First: The prompt passage of a bill which embodies the tariff rates recommended by the New York Section of the American Chemical Society. This will insure immediate and intelligently planned expansion of the domestic dyestuffs industry.

Second: The passage of an effective anti-dumping clause and unfair practices act. This will guard the home industry against that unfair competition we have every reason to expect from the German monopoly in coal-tar dyestuffs.

Third: The passage of the Tariff Commission bill now before Congress. Such a body would give an impartial judgment as to when the industry is thoroughly established and operating efficiently. When that point is reached the advanced tariff rates now advocated should be lowered in justice to the consuming public. I know from their own statements that our dyestuff manufacturers will gladly welcome and frankly aid the work of such an impartial commission.

In such matters the voice of your association should be heard. Your interests are at stake; the welfare of your operatives depends upon you. Arouse the Southern press to energetic advocacy. By resolutions and by aggressive committee effort impress our Southern Democratic Congressmen with the justice and urgency of your cause, and in unmistakable terms make clear to them your conviction that in this issue neither Democratic doctrine nor Republican doctrine finds patriotic place—"America-First" alone should decide.

A Vat Color House.

The Quaker City Supply Company, who specialize in dye-stuffs and chemicals, have recently opened an additional warehouse at 1716 Ludlow Street, Philadelphia, where the offices of the Company are located and which is equipped with a most complete and up-to-date laboratory. This concern is one of the largest operators in vat colors in this country handling genuine type colors and having facilities for the matching up of samples. Inquiries from interested readers will be given prompt attention.

A Color House in the West.

The Holland Aniline Company has opened an office at 118 West Kinzie Street, Chicago, Ill., representing the Dutch Color and Chemical Works, Ltd., Delft, Holland. This company has advised us that, in spite of the difficulties of importation, they are able to supply those colors for which the Dutch Color and Chemical Works can obtain the raw materials. While at present this is mostly Sulphur Brown, they will be able to supply Sulphur Blue and Sulphur Black in the near future.

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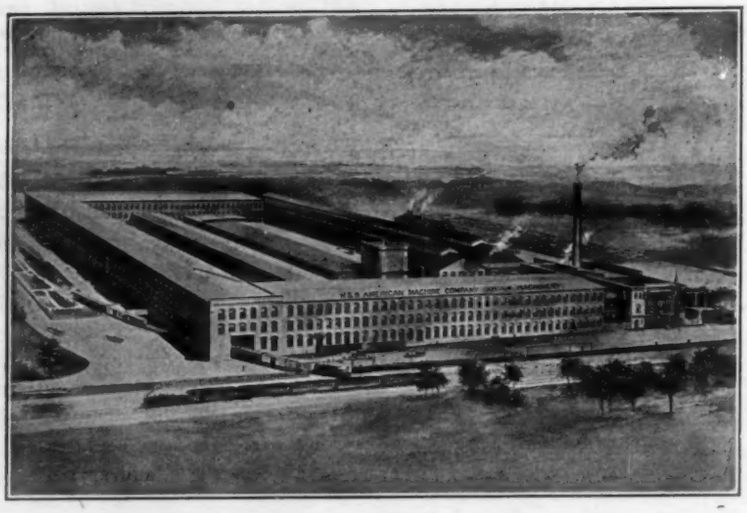

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PAWTUCKET, R. I.

Research Work on the Intermediate Compounds.

BY G. H. FRANK, F. I. C., M. SC.*

The foundation of the coal-tar industry is research work, a fact which is fully recognized abroad, but is only beginning to be acknowledged in this country. The type of man required for research work is one who notices trifles or slight variations in the conditions employed in experiments and he should be trained in deducing results, observing details, and in research work.

The dyeing-trade is mobile and ever-changing, research work often being initiated by the particular demands of the trade, and it is eminently right that research chemists should keep in touch with practical conditions and with the needs of practical men.

The making of dyestuffs is relatively a simple matter, the chief difficulty being in the manufacture of the intermediate compounds. Great Britain has never manufactured the majority of the intermediate compounds, and, consequently, when the war broke out the manufacturer did not know the correct conditions for their successful manufacture.

In the distillation of coal-tar, we get benzene, toluene, phenol, napthalene, anthracene, &c. which are the chief raw products for the manufacture of dyestuffs. Of these raw products, benzene, tolulene, and phenol are in great demand at the present time for the manufacture of explosives. The entire supply of benzene is probably not, however required for explosives, so that there should be a quantity of this product, which could be employed for making dyestuffs. The most important methods for making intermediate compounds requires acting on the raw products with sulphuric acid and with nitric acid, both of which are also in great demand for the manufacture of explosives.

As regards the intermediate compounds, a great deal is known about them, but the chief difficulty, in the majority of cases, is that we do not know the exact working conditions for producing a pure product, or the exact conditions for producing a good yield. These are two of the most important factors in producing dyes:—(1) The intermediate compounds must be pure or the shade of the dye may be spoiled; (2) a good yield of the products must be obtained. If one firm obtained a yield of 90 per cent of theory of a particular compound, whilst a second firm obtained only a 60 per cent yield, the first firm would, of course, be able to place a dye on the market more cheaply than the second firm could do it.

In all research work a good library is essential, in order that a chemist may read up his subject and find all the references possible to the work he has in hand. After finding the correct conditions for making a compound on an experimental scale, the chemist is then asked to apply his process to make some pounds of his product at a time. For this, the chemist, in conjunction with an engineer, designs a small plant to make this product. It is very important that this intermediate stage of manufacture should be tested, because it is here that little faults in the process, or in the design of the plant are shown, and it is much cheaper and simpler to alter a small model apparatus than to put up a manufacturing plant and have to alter that.

It might be thought that for each shade of dye

*Extract from an address to the Foreman Dyers' Guild.

entirely different intermediate compounds, are required, but this is not so, because from a few intermediate compounds, acid dyes, basic dyes, direct cotton dyes, mordant dyes, vat dyes, and sulphide dyes can be produced. It becomes, therefore, an interesting point to see if there is not any way out of the desperate position of the color trade, at present existing on famine rations with the prospect of the supply being curtailed rather than increased. What the lecturer suggests is that the manufacturing firms come to an agreement to limit their energies at present, to manufacture a range of shades for wool and for cotton to satisfy the average demands of the trade.

This would require a black, a blue, a red, and a yellow for wool dyes, and the same range for cotton. The following dyes for wool and for cotton could be made from fifteen intermediate compounds:—

For Wool.—Diamond Black (or Chrome Black RH), Wool Black, 4B, Patent Blue A or V, a Wool Blue, Alizarine Blue, Fast Acid Fuschine B, Alizarine Red W, Magenta, Diamond Flavine G, Naphthol Yellow S.

For Cotton.—Diamine Black RO, Diamine Sky Blue, or Diamine Blue 3B, Congo Red, Benzopurpurine, Primuline, Mikado Yellow, and Orange.

The intermediate compounds required for these colors are:—Aniline, dimethylaniline, benzidine, nitrotulolene, tolidine, nitro-benzaldehyde, salicylic acid, dianisidine, *a*-naphthol, *a*-naphthylamine, naphthionic acid, Neville & Winter's acid, *y*-acid, H-acid, anthraquinone.

These could all be made without using oleum, with the exception of anthraquinone, and are sufficient to give a large range of dyestuffs for wool and for cotton. It should here be stated that some intermediate compounds are more easily prepared if oleum is used, and dyes like alizarine blues, reds, &c., and indanthrenes require oleum.

In the above scheme, phenol is the raw product from which salicylic acid and dianisidine are prepared; the latter can be made from benzene; nitrotoluene, toluidine, tolidine, and nitrobenzaldehyde are prepared from toluene, whilst benzene gives us aniline, dimethylaniline, and benzidine. If we regard benzene, toluene, and phenol as entirely required for making explosives, we could still obtain a range of dyestuffs from compounds not required for explosives by employing the raw products xylidine, cresol, and naphthalene. From these we could obtain, along with other dyes:—

For Wool.—Coomassie Black B, Acid Black 6B, Anthracene Chrome Black, Lanacyl Blue 2B, Coomassie Navy Blue, Palatine Chrome Blue, Xylidine Scarlet, Crystal Scarlet 6R, Scarlet 000, Ponceau R, 2R, and 3R, Mordant Yellows, Naphthol, Yellow S, Orange R, Naphthol Green B, Lanacyl Violet B, Union Fast Claret.

For Cotton.—Sulphur Black R, Diaminogen, Diamine Blue 6G, Melanogen Blue, Naphthalene Red.

Under these conditions the supply of dyestuffs for cotton would be inadequate, but as all the benzene is not required for explosives, part of it could be utilized for making a range of direct cotton colors and sulphide dyes.

The state of the dyeing trade would be considerably improved by co-operation between the manufacturing firms, to produce a range of dyes for wool dyeing and one for cotton dyeing. By this means the unnecessary duplication of plant would be prevented, and the demands of the trade would be satisfied in the quickest manner.

Another point that should be insisted upon is co-ordination of research work. The method of employing four or five men to work upon the same problem in different parts of the country without any co-operation is nothing but a waste of energy. The chemists should all be grouped together under a central authority to work at a defined, systematic scheme.

BOOK REVIEWS

All Books Reviewed Under This Heading May Be Procured From COTTON at the Published Price.

INDUSTRIAL LEADERSHIP. By H. L. Gantt. 128 pages. Nine illustrations. Published by the Yale University Press, New Haven, Conn. Price $1.00 net.

Mr. Gantt is, perhaps, best known in connection with his work in scientific management. Readers of COTTON have frequently had an opportunity to follow his line of thought in papers and addresses before associations. This volume consists of addresses delivered in the Page Lecture Series of 1915 before the senior class of the Sheffield Scientific School at Yale University. In this series of lectures Mr. Gantt has tried to set forth the principles on which he believes an industrial democracy can be based, which will be even more effective than any system of industrialism which can be developed under an autocracy. Those readers familiar with Mr. Gantt's writings will welcome this addition to works published previously.

COTTON SPINNING. Vol. 2. By Thomas Thornley, Spinning Master, Bolton Technical School, Bolton, England. Published by Scott, Greenwood & Sons, London, England. 316 pages. 114 drawings. Price $3.00. Distributors for the United States, D. Van Nostrand Co., New York.

This is the third edition of the intermediate or second year book on cotton spinning by this well known author, being a companion volume to Grade 1 Cotton Spinning and the "Honors" or Final Grade Cotton Spinning by the same author. It treats upon that section of cotton spinning which for many years has been classed as the intermediate or second year work. The machines and processes treated in this volume begin at the combing process and continue through the drawing frames, bobbin and fly frames, mule spinning and ring spinning. It is written in question and answer form, which makes it of particular value for home study purposes.

DOCKHAM'S TEXTILE, CLOTHING AND CUTTING-UP TRADE REPORT AND DIRECTORY FOR THE DOMINION OF CANADA. 1916. Second edition. Published by the Dockham Publishing Co., Boston. Price $1.00.

This report and directory is complete for the Dominion of Canada and embraces all the cotton, woolen, worsted, silk, jute, flax, linen, hosiery and other knit goods manufactures, with full reports on drygoods commission men and manufacturers' agents, yarn, cotton and wool dealers. In the cutting-up department it also covers very fully the Canadian list.

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A Roofer's Opinion—

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Its success means the better protection and welfare of the roofer who stands for good work and the faithful observance of specifications. We know of no more promising means for realizing this vital end than the consistent and sustained course you have followed during the recent past years, and trust there will be no faltering in the long campaign directed toward elevating our craft.
(Signed) F. A. Ford, Pres.

If you are an architect or engineer, we suggest that you include The Barrett Specification verbatim in your building specifications. It will insure a roof that has a lower cost per year of service than any other known roof covering—a roof that costs nothing to maintain—a roof that is endorsed by the Underwriters' Laboratories and that takes the base rate of insurance.

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TRADE B MARK

Notes About Men You Know.

LEWIS WARDLAW PARKER, organizer and president until November, 1914, of the Parker Cotton Mills Company, and one of the most prominent men in South Carolina in the cotton mill industry, died at his home in Greenville, April 11th.

Mr. Parker's death had been almost hourly expected for several days. Since the first of the year, he had been rapidly growing worse from a cancerous growth in his jaw, which first developed about eighteen months ago. Repeated treatment by highly skilled specialists, although temporarily relieving the affliction, failed to effect a permament cure.

Mr. Parker was about 51 years of age, and had been a citizen of Greenville since 1889, when he began the practice of law. His remarkable career in the cotton manufacturing field began with his election in 1897, as president and treasurer of the Victor Manufacturing Company, at Greer. This establishment was in financial difficulties at

THE LATE LEWIS W. PARKER.

that time, and Mr. Parkers' success in establishing its credit and putting it on a sound basis financially, led to the organization by himself and Thomas F. Parker, of the Monaghan Mills at Greenville, which also proved successful. From this beginning other mills came under Mr. Parker's management, resulting in the organization of the Parker Cotton Mills Company, a combination of sixteen plants operating 517,000 spindles, and regarded as the largest aggregation of cotton mills in the South.

The outbreak of the European war, and a difference arising between Mr. Parker and the directors of the company, led to his resignation as president of the Parker Cotton Mills Company, November 4, 1914. Since that time up to the past few weeks Mr. Parker had been practicing law at the Greenville bar, in spite of his physical affliction.

Mr. Parker was elected president of the American Cotton Manufacturers Association in 1909.

GEORGE L. WARFIELD has resigned his position as master mechanic of the Jenckes Spinning Company at Pawtucket, R. I., and has accepted the position as superintendent of the Thorndike Company at Thorndike, Mass., which was recently made vacant by the death of J. F. Davis.

P. E. ADAMS has resigned his position at the Paola Mills, Statesville, N. C., to become overseer of spinning and twisting at the Turner Mills, East Monbo, N. C.

J. H. FRANKS has resigned as overseer of weaving at the Lexington (S. C.) Mfg. Co.

WILLIAM WHITEHEAD, overseer of the engraving department of the Pacific Print Works, died at his home in North Andover, Mass., recently. He left a wife, one son and a daughter.

M. T. SANFORD has accepted the position of overseer of carding at the Southside Mills, Winston-Salem, N. C.

EDWARD W. SMITH, formerly superintendent for the Utica Fine Yarn Corporation at Utica, N. Y., has resigned and accepted a similar position at Fall River, Mass.

G. W. RUCKER has been promoted from night overseer of carding to a similar position on the day run at the Rhyne Mill, Lincolnton, N. C.

WILLIAM C. SCOTT, who has been assuming the duties of Peter Cooper as overseer of weaving at the Ashland Cotton Co. during the latter's illness, has returned to his home in Lewiston, Me. Mr. Cooper has been ill for the past four months with heart trouble, for which he received treatment in New York for several weeks.

WILLIAM G. REYNOLDS, general manager of the Dorothy Mfg. Co., Dallas, N. C., has been elected treasurer as well as manager. He has also been elected to the board of directors, succeeding F. L. Wilson, resigned.

T. L. LAWSON, of Eufaula, Ala., has accepted the position as master mechanic at the Manetta Mills, Lando, S. C.

W. R. LYNCH, manager of welfare and health department, Spray, N. C., passed through Atlanta in returning from the Southeastern Sanitary Association meeting at Brunswick, Ga.

P. H. HOWARD of Lancaster, S. C., has accepted the position of overseer of carding at the Marlboro Mills Nos. 1 and 2, McColl, S. C.

W. T. LOVE has resigned as vice-president of the Dorothy Mfg. Co., Dallas, N. C.

C. W. ROBINSON has resigned as treasurer to become vice-president of the Dorothy Mfg. Co., Dallas, N. C.

F. F. ROBINSON has resigned as overseer of spinning at Bon Air, Ala., to accept the same position at Highland City Mills, Talladega, Ala.

SAM LANIER, of Gastonia, N. C., has accepted the position of overseer of carding at the Rex Spinning Co., Ranlo, N. C.

W. R. GRAHAM has been promoted from second hand to overseer of weaving No. 2 at the Roanoke Mills, Roanoke, N. C.

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C. C. RANDLEMAN has resigned his position with the Dupont Powder Company and returned to his former position as superintendent of Weldon (N. C.) Cotton Manufacturing Company.

W. T. ROYSTER has resigned as overseer of carding at the Jackson Mills, Monroe, N. C., to accept a traveling position.

JOHN MORROW, who was foreman of starching and finishing at the Eddystone Print Works at Eddystone, Pa., has resigned his position and is now employed by the Middlesex Print Works of Somerville, Mass.

S. E MCGEE has become night overseer of carding at the Rhyne Mill, Lincolnton, N. C.

W. S. BOYD has resigned as overseer of spinning at Chadwick-Hoskins Mill No. 1 to become superintendent of the Harden Mfg. Co., Worth, N. C.

ANDREW MCCLELLAN has resigned his position as overseer of the weaving department at the B. B. & R. Knight, Lippitt Mill, and has accepted a position at the White Rock (R. I.) Mill, which is owned by the same firm.

IRVING SOUTHWORTH, agent of the Cocheco department of the Pacific Mills, Dover, N. H., has been re-elected secretary of the New Hampshire Manufacturers' Association at the annual meeting of the organization.

W. B. CHANCE, overseer of carding at Brown Mills, Concord, N. C., has been given charge of the spinning also.

CHARLES BOOTH, formerly of Tilton, New Hampshire, has accepted a position as manager of the G. H. Tilton & Son Mill of Savannah, Ga.

IRA F. PHILLIPS, who was formerly employed by the City Mill and also by the New England Cotton Yarn Company of New Bedford, has been appointed superintendent of the Trainer Spinning Company of Trainer, Pa.

JAMES NEIL has accepted a position of overseer of spinning at the City Mills at New Bedford, Mass.

M. E. WILLIAMSON has accepted the posifion of overseer of spinning at Danville Knitting Mill, Bon Air, Ala.

B. R. RIDDLE, overseer of spinning at the Graniteville (S. C.) Mfg. Co., has been promoted to overseer of carding and spinning at the Hickman Mills of the same company.

ROBERT J. H. BETHEL, overseer of weaving at the White Rock (R. I.) Mill of the B. B. & Knight Co., has resigned his position.

G. W. MEDLEY has resigned as overseer of carding in the cotton department at the Atlanta (Ga.) Woolen Mills.

WILLIAM DICKSON, overseer of slashing, beaming and warping, at the Jenckes Spinning Co., Pawtucket, R. I., has resigned his position with that firm.

GEN. EUGENE S. BOSS, agent of the American Thread Co. plant, Willimantic, Conn., has decided to retire to private life. He has been in the cotton thread business for more than 59 years and will be succeeded by his son, who has been his father's assistant for several years.

W. O. MCSWAIN has been promoted from card grinder to overseer of carding at the Shelby Cotton Mills, Shelby, N. C.

JAMES R. ORR has resigned his position as overseer of dyeing for the Nashua Manufacturing Co., Nashua, N. H.

COL. L. D. TYSON, president of the Knoxville Cotton Mills, and the Knoxville Spinning Mills, Knoxville, Tenn., has been endorsed by the city commissioners for the office of Assistant Secretary of War.

J. W. REYNOLDS, of Concord, N. C., has accepted the position of overseer of carding at the Gem Mills, Gibsonville, N. C.

CHARLES I. KUTZ, junior member of the firm of Kutz Bros. & Son, hosiery manufactures, and Mabel A. Keinert of Kutztown, Pa., were married recently and are now on their wedding trip.

W. M. SOUTHERN has resigned as overseer of carding and spinning at the Pickett Cotton Mills, High Point, N. C., to become night superintendent of the Dixie Mills, Mooresville, N. C.

JOHN R. HOWARD has resigned as superintendent of the Lavonia (Ga.) Mills to become overseer of spinning at the Cherokee Falls (S. C.) Mfg. Co.

CHARLES T. GARDNER, who has been in charge of the finishing department for the Warren Cotton Mills, West Warren, Mass., for 11 years, has resigned his position with that concern and has accepted a similar position with the Esmond (R. I.) Mills.

J. C. STROUD is now overseer of both day and night carding at the Glenecoe Mills, Columbia, S. C.

W. H. BRIGMAN has resigned as overseer of spinning at the Steele's Mills, Rockingham, N. C.

P. F. CLARK has accepted position as overseer of carding at the Calhoun Mills, Calhoun Falls, N. C.

H. AIKEN, of Winnsboro, S. C., is now overseer of weaving at Enoree, S. C.

B. T. BUMGARNER, formerly of Alta Vista, Va., has accepted the position as overseer of spinning at the Hanes Mill No. 2, Winston-Salem, N. C.

R. E. CEARLE has resigned his position as master mechanic of the Warren Cotton Mills, of Warren, R. I., to accept a similar one in a large mill in Woonsocket, R. I.

LINWOOD HILTON, formerly of Manchester, N. H., has accepted a position as overseer of weaving for the Imperial Cotton Co., Ltd., Hamilton, Ont., Canada.

W. G. FREEMAN, of Kannapolis, N. C., will be overseer of carding at the new Hanes Mill, Winston-Salem, N. C.

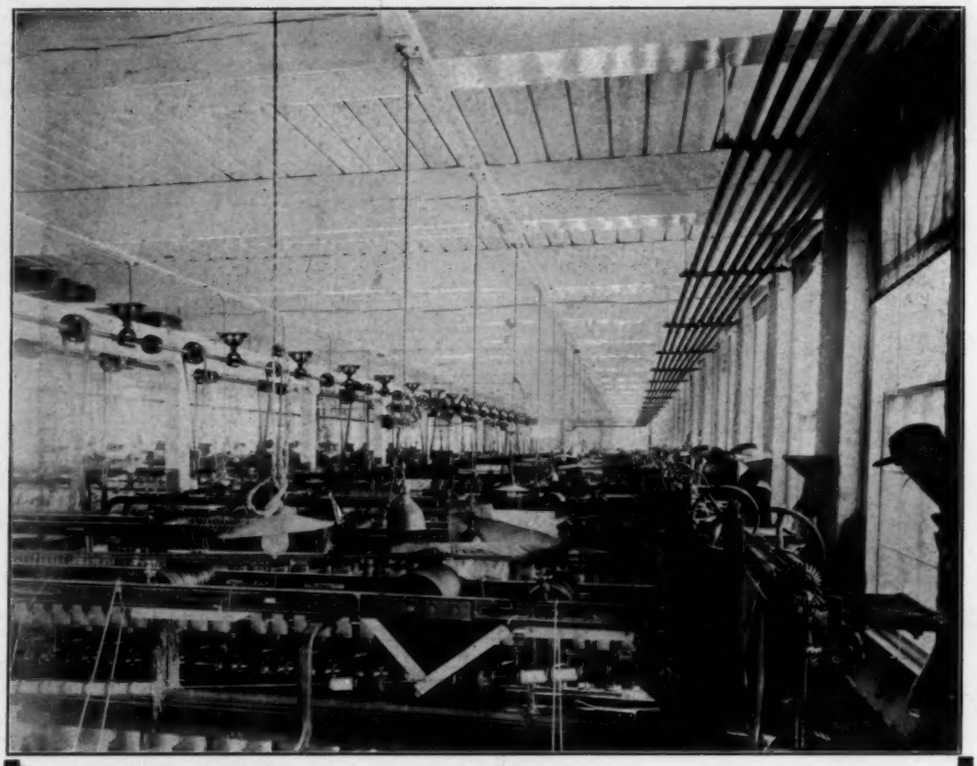
W. P. CARGILL has resigned as overseer of spinning at the Granby Mills, Columbia, S. C., and accepted a similar position at the Wallace Mills, Jonesville, S. C.

J. F. BELL has resigned as overseer of spinning at the Fairfield Mills, Winsboro, N. C., and accepted the position of overseer of spinning, spooling and warping at the Graniteville (S. C.) Mfg. Co.

G. W. ANDREWS has resigned his position at the Anchor Duck Mills, Rome, Ga., to become night overseer of twisting, warping, beaming and weaving at the Marlboro Mills, McColl, S. C.

The American Textile Banding Company, Inc., Philadelphia, Pa., have had to move to larger quarters to accommodate the increased demand for their well known spindle tape and banding. They were formerly located at Third & Moore Sts., and their new plant, which is 50 per cent larger than the old one, is located at Hunting Park Ave., and Marshall Sts., Philadelphia.

"Safeguarding Your Shipments" is the title of an interesting 24 page booklet for manufacturers which may be obtained free of cost by addressing the Ideal Stencil Machine Co., 3 Ideal Block, Belleville, Ill. Don't blame the other fellow for the things you don't do.



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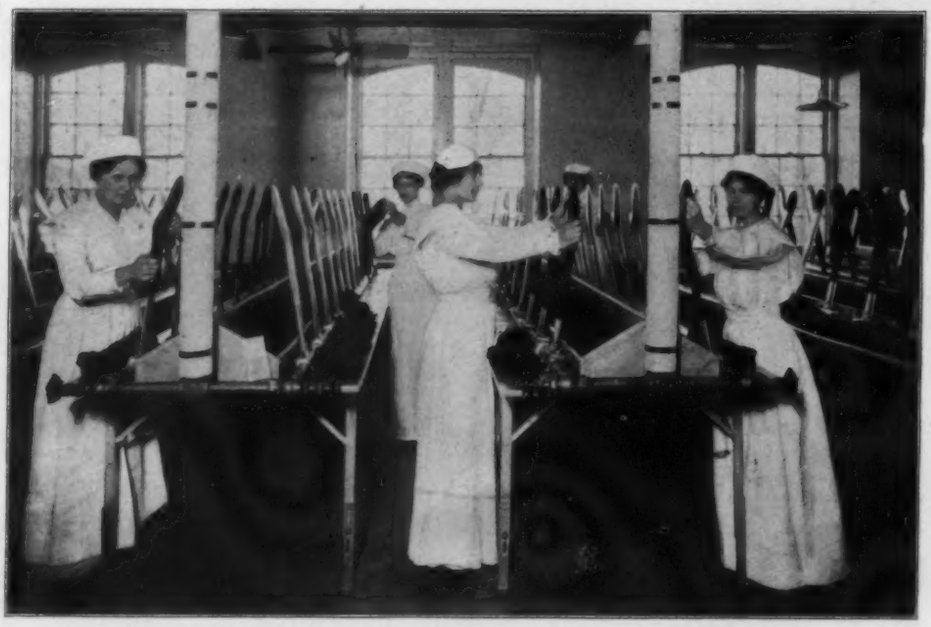

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Practical Problems Discussed by Cotton's Readers

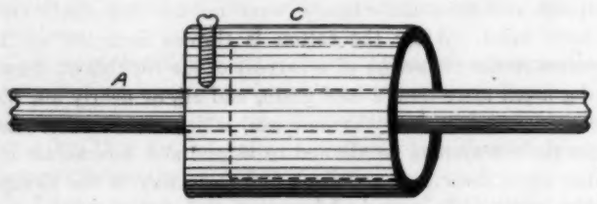
We invite our readers to make use of this department for the discussion of any and all problems arising in the mill or the finishing plant. Questions, answers or letters need not conform to any particular style and will be properly edited before publishing. The editors do not hold themselves responsible for any statements of opinion or fact which may appear in this department unless so indorsed. This department is open to all. Suitable letters are paid for in cash.

Some Card Room Hints.

EDITOR COTTON:

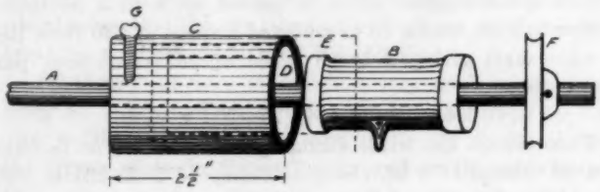
I am illustrating an oil cuff for drum grinder rolls, to be used when grinding card flats where the long brass bushings are used. For drums using the short brass bushing it is not needed. The long bushing is a late model of bushing for drum grinders, and is more substantial and gives better satisfaction for grinding than the short ones, as it has more bearing surface and makes the grinder roll steadier. The only fault I find in the long bushings is that the end runs out over the ends of the card flats, and if not protected, the oil will drip out on the flats. Then we all know what will soon follow.

I have devised a cuff to fasten to the drum that will take care of the oil question, and I have been using it



since shortly after I found what the long bushings lacked. It's a simple remedy and is easily gotten up.

Get a piece of casting and have it turned out so as to hover the bushing as the drum roll makes its short traverse. Figure 1 shows the cuff as it looks on the drum shaft. Fugure 2 shows how it runs over the brass bushings as the drum makes its stroke. A is the drum shaft; B the bushing it traverses over; C is the oil cuff and shows how (by the dotted lines) it works over the bushing while making its short traverse; D shows the open space in C



where the bushing goes in; E shows about the relative distance the cuff covers while traversing; F is the grinder roll band pulley; G is a set screw that fastens the cuff to the drum shaft A. The length of the cuff depends on the space between the bushing and the drum roll main. The ones I made are two and a half inches long.

I will give in connection with this description my instructions to my card grinders that have to be followed on every card they grind: Strip out and clean out everything clean; wipe off the card on the outside clean; set the traverse grinder rolls to work on the cylinder and doffer; then set the drum at work on the flats. I grind the flats every time I grind the cylinder and doffer, and at the same time, then I know they are sharpened every time the cylinder and doffer is, instead of rushing the drum roll around on the grinding job ahead of the regular grinding card. Then I have all oil holes that have become stopped up, cleaned out and oiled well with a non-fluid oil.

When the card is ready for setting up I have it again cleaned off, and when the gauging is done and the cotton is started in, I have it oiled again good all over every oil hole with non-fluid oil. Then I am sure the card is in good shape and will run free and easy. I prefer a non-fluid oil on all my cards, for it will not fly and run out like a thin oil and it's next to an impossibility to get oiling done on any job under running conditions every day, with a light oil, without some running over the oil holes or running out at the ends of the bearings. When this happens on the cards it means heavy expense very soon. How many spoiled card fillets and flats has the superintendent and overseer of today seen that has come from a direct case of oil rot, and that he has had to redraw or replace with new fillets.

That's the point. We have all got to watch closer now always for our competition is so great and our manufacturing profits are so small that we have got to keep up more and more at every little place where there is liable to be a leak and cause a loss of expense that could have been avoided by a small expense or attention in due time. Then it looks so much more like a carder is "onto his job" when a visiting mill man, who may be an up-to-date mill man, comes around, to have the cards clean and free from oil streaks on the ends of the cylinder, doffer and especially the ends of the flats. It means that you are working on the efficiency basis. The non-fluid oil, I find, answers the purpose better for me on cards than a lighter oil, because it is heavier and has a good body and it don't take so much and don't run out; thus it keeps the bearings better lubricated.

In setting the oil cuff, set it so that it will not entirely revolve from over the bushings. That insures that if any oil gets in there, by the time it has worked its way out over the bushings that it is spread so thin as to be hardly noticeable; that is, of course, if the bearings are oiled with reason.

The card is one of the most dangerous machines in the mill for making inferior yarn or cloth—and inferior yarn or cloth is costly—likewise, clothing for the card is costly. So it pays to watch and take up every point that will add to the quality of the yarn and at the same time also add so much to the life of the machines. Oil is the master of machinery, and if used carelessly it masters the quality of the goods. So let us all, when we find something that will add to either the quality of the product or the life of the machinery, write of our finds and experiments to COTTON, that other practical mill men may, perhaps, be benefited.

Carder (Ga.)

Combing Noil and Waste.

EDITOR COTTON:

Having occasion recently to look over some of the back numbers of COTTON, I noticed in July issue 1914 an article on cotton combing. I would like to express my views and opinions, which evidently differ with the writer of the article referred to.

He says, "The use of the aspirator is a great improvement over the old system of removing the waste." I have tried tests and experiments on the new method or aspirator, and the old method of doffer and comb, and putting the following statistics together I believe the slight advantage and features the *new* method has over the *old*, is overcome on the other hand by the supply cost of maintaining it. For this reason I find that most carders agree with me.

The object of the aspirator is to convey the non-combed short stock and impurities to the back either to the noil can or the back table or lattice, as the case might be, if the latter, to be then drawn or drafted and made into a sliver or a loose rope. This method applies to mills using their own noil, but owing to the fact that the using of noil is no credit and hurts the reputation of a mill, there are few doing it. To be exact, the writer has in mind only one out of about ninety mills doing it.

Another advantage the aspirator has is the claims of the makers "that the old method makes from one to two per cent fly-waste or cleanings." Now don't misunderstand me and term the waste noil, like most mill men do. It strikes me queer sometimes to hear old carders misrepresent themselves by saying, "Well, I am taking as high as 22 per cent waste." They should remember that they are taking a percentage of "noil" and not waste.

Waste means fly that has accumulated on the nipper knife ,brass top roll clearer, top comb, around the smooth part of the feed roll, cylinder shaft, inside, outside, top and bottom of the doffer bonnet, and on the floor. I should say that the correct definition would be the waste is what is *meant* for the noil can and noil is what *gets there.*

The writer knows of mills that have taken it for granted that the taking out of 22 per cent noil on the aspirator is equivalent to taking out 20 per cent on the old system; their reasons being that the claimed two per cent is saved by going into the noil can, and not into cleanings. This claim of one to two per cent is much too high, as any of the readers can prove to their own satisfaction by the following test. Clean the comber thoroughly back and front and empty the sliver can, run the comber a certain period of time, weigh the good work and weigh the cleanings, get the percentage, and in the majority of cases the cleaning will not be "one or two per cent,' but about 3/100 of one per cent, as some of my tests have shown. Now this 3/100 of one per cent on the old system is cleaned off by the comber tender or back cleaner onto the floor, swept up and put into the sweeping can.

The aspirator overcomes this evil by the current of air acting in conjunction with the brush which takes the short stock from the half-lap through being set as to just touch the first row of needles, and when the last row or twentieth comes around to where the brush is, it is set much deeper into the brush, which causes the bristles to be bent backward, and as the last row passes by, letting the bristles attain their proper position with a snap, this throws the short stock which amounts to, we will assume, 20 per cent of the weight of a 485 grain lap, which will be 96 grains of noil per yard of lap fed, but understand, this 96 grains is not in the air at one time, but while one yard of lap is being fed, so it will be plainly seen that in order to determine the amount in the air at one or all times (when running, of course), we would have to take the amount fed forward per nip, which is 14/100. It will take a trifle over seven nips to constitute one inch, and 252 nips or revolutions to deliver one yard, and by dividing 96 grains by 252 revolutions, we find the result to be 38/100, or less than one-half of one grain in the air at one time, which can be very easily drawn without excessive current and without any flying away, leaving no chance whatever for back cleaning.

The angle that the fibres are thrown depends much upon the speed, condition and setting of the brush, but in either case an increase will cause the stock to be thrown at a less angle but a greater distance out, which makes it much easier for the current of air to draw it to the revolving cylinder, consequently requiring less draft, which is governed by the speed of the fan. This fan is run much too fast in most cases, it being often possible to reduce the speed and save unnecessary wear on the fan shaft and drive band. After the cotton is thrown into the air it comes under the action of a current of air capable of drawing much more than a half grain, and all, or nearly all, the fibres, are drawn to the noil can, which would otherwise, on the old system, be allowed to escape and accumulate on the parts described, and later find their way to the sweeping basket. This method increases the noil not from one to two per cent, but about 3/100 of one per cent, as some of my tests have proven.

I know, that in different mills, the conditions and settings differ in the percentage of back cleanings, or waste, but I don't think there are any taking out as high as ¾ of one per cent.

In governing the percentage of cleanings, I would like some of the readers to try the following experiment and test to prove to their own satisfaction what a difference the speed of the brush will do. For instance, take a Whitin high speed comber, which is geared up with a 34 tooth gear to a 34, then a 20 to a 25 and a speed of 330 from the main shaft giving a brush speed of 265 revolutions per minute.

$$330 \times 34 \times 20 \div 34 \times 25 = 264 \text{ r. p. m.}$$

Then change the triple change gear around so as to have a 28 instead of a 20, changing the speed from 264 to 369, and it will be plainly seen with the naked eye that we will take out or make nearly twice the amount we did on the lower speed. This is not, to my knowledge, taken into consideration with the percentage of noil, as it should be. A mill is doing itself an injury in taking out 20¾ per cent and only getting credit for 20.

I should advise a test of all wastes under ordinary conditions and this together with the noil should equal the percentage that the order or quality calls for.

One advantage the aspirator has over the old system is the elimination of the accumulation of this fly-waste on the top part of the doffer bonnet or that part commonly called the half-lap bonnet, which on the old system clings and accumulates until it gets so full that it falls over the

edge of the bonnet into the half-lap, mixing short stock with long combed stock, and delivering it into the web or sliver, depositing a mass of impurities and short cotton into what is supposed to be combed cotton and cloth, because after the cotton leaves the comber until it becomes finished cloth there is no machine acting upon it which has the properties of clensing or removing these impurities. Also there are no machines except the picker, card and comber that gives the cloth strength by taking out short stock. "A chain is no stronger than its weakest link" and yarn is supposed to be even in its strength tests. The drafting it receives on the last eight or ten machines helps to divide it up, but the short stock is still there somewhere, and wherever it is, weakness exists.

In regard to the impurities mixed in this mass of short stock, they also go into the web, but after the slivers are drawn they are separated and instead of being a mass of impurities, we find them at intervals, one being about eighteen or twenty yards away from another. As to the number, I might say that after running the comber four hours without cleaning the bonnets, I watched one head, which got full and fell over into the half-lap and going around to the front I found about 18 impurities. Understand this was only on one head out of 640. Might I assume that half of them did it once a day, for instance, this would mean 5760 impurities in a 9 hour day that could be traced to the inefficient doffer bonnet on the combers.

I have heard carders remark, "that these unpurities were lost or lose themselves," meaning that owing to the drawing process they are divided into such great intervals that they are not noticeable, except to a close observer, —nevertheless they are there.

I have seen a mill which was troubled with these evils in the cloth and the superintendent came up to the carder and remarked about the trouble, telling the overseer to overcome them. The overseer had two per cent more noil taken out of the comber "to get cleaner work," which was wrong. The taking out of two per cent more noil only made a slight difference in cleanliness surely not noticeable, but would make a difference in strength. A test of this noil would show its properties composed of about 98 3/10 percent short clean cotton, 1 3/10 percent leaf and 2/5 of one percent is divided among five other impurities, namely, sand, seed, naps, nits, and burrs. So it will be plainly seen that the two per cent he took out regulated the breaking strength more than the cleanliness.

Of these impurities sand is in a very small percentage, being so heavy and not tending to stick, it drops by its own weight. You will find sand under the feed roll, on the nipper plate, in the puff pans and on the table more than anywhere else. Naps are small bunches of stock not parallel. Burrs are generally termed from specks of burlap, being from the covering of the bale. Nits are the smallest of impurities and generally hard to determine between "seed" and "leaf" and so small a percentage they can hardly be taken into consideration.

Having stated the advantages the aspirator has, I will give four disadvantages, which, in my opinion, are so important as to overcome all its advantages. First, the brush traverse motion is taken off, not cleaning the half-lap as well, and allowing the brush bristles to become worn all in the same place, because of no change in position. Second, the brush is 14 inches long and the [illegible] only 13, therfore causing the mill to pay for something not used, every time the brushes are repaired. Third, in taking percentages after running the comber a certain period of time, say 40 nips for instance, there will be only about two and a half inches of noil to figure percentage, where, on the old system, there would be about 16 inches. Because of this extra length a better average and more accurate results may be obtained. Fourth, the brushes are speeded up (on one case I know) from 264 to 680 revolutions per minute. This means that the life of the average brush which is now seven years, will have to be renewed in less than two years, which is no small item. Some mills having about 960 brushes. L. C. (R. I.)

A Little Study in Human Nature.

EDITOR COTTON:

I have had several rather interesting discussions as to whether polishing the machinery in the mill did any good. One prominent mill man made the remark that he thought it all nonsense and a waste of time and money. I did not agree with him as I heartily approve of it. I think there is nothing that will improve the standard of a room more than keeping the machinery and shafting well polished, and I think the up-to-date mill man is beginning to realize this more and more.

An operative that isn't interested will not turn off as good work as one who takes pride in his machine and tries to keep it clean. The opinion of a good many mill men especially the old timers and big production men of today seems to agree with my friend that polishing has no other effect or purpose than to please the eye of the owner or the occasional visitor. I think, in the majority of cases, the opinion of the outsider or spectator is hardly considered by the superintendent or overseer in having the polishing done.

The main reasons are, the effect on the operative, the life of the machine and the general effect on the personnel of the department and thus on the work. To illustrate this I will give an experience I once had, shortly after taking a new job. At this particular time we were short of help and were forced to use some that were not up to the standard we hoped to maintain. One drawing tender in particular we had about given up hope of ever improving. Finally I had the third-hand stay in on Saturday afternoon and thoroughly polish his frames. The drawings ran well enough except they had been allowed to get oil stained and rusty. Monday the four frames stood out from the rest like "black and white." I talked to him and told him how much work it was to polish them and that we expected him to keep them that way. We gave him some whitening and some waste and had him wipe them off every so often. By a little judicious encouragement we managed to keep him interested. I explained to him the effect of a damp hand or arm and told him to not let anybody touch the covers. He was very careful and was ready to fight if anybody touched the frames. He would follow the oiler around and be sure no oil was left to stain the covers. While he was so particularly interested in the polish he kept his clearers, top-rolls and floor a good deal cleaner than we ever had been able to get him to do before. Slowly, at first, but finally he changed from a lazy, indifferent operative into one of the best men I had.

I don't claim the polishing of the machines was the whole reason why he improved, but I do think it woke him up to the fact that we meant business and were interested ourselves. Afterwards we did the other frames, repeating our work with each operative. Some did not respond to treatment and as soon as we could we filled their places. We followed this plan all through the card-room and although it was hard work and sometimes very discouraging, the final results fully repaid us for our trouble. Of course there were many things we did that had a more direct bearing on the work than polishing the covers of a drawing frame or the coilers of a card, but the polishing did a great deal to improve the personnel of our help.

Any carder having trouble getting his cleaning done would do well to take this up with his grinders and third-hands. The help situation is getting tighter every year and you must keep your help interested to get results. A school teacher's first effort is to interest the pupils. The help in the mill are a good deal like pupils in a school and must be handled in much the same way. Get them interested and they will work with you. The day of the overbearing, domineering overseer is over and superintendents and agents are beginning to realize it more and more.

This is a perfectly frank expression of my opinion. If any of the readers of the problem department can give any reason why they don't agree with me, would like to hear it.

Carder (R. I.)

A New Bobbin Cleaner.

The D. D. Felton Brush Company is introducing a small machine known as the Felco Bobbin Clearer for the thorough cleaning of slubber, intermediate and speeder bobbins. the illustration shows its general appearance. The brush is made from a heavy grade of pure bristle securely twisted

into wire and is held in the shaft by a screw with countersunk head. The machine is novel and neat, and the results obtained from its adoption are said to be excellent.

It is needless to go into the purposes of this machine as all carders have experienced difficulty with the soft, loose, oily pieces of cotton dropping onto the roving in the creels being twisted into the yarn, thereby making a black streak which becomes greatly magnified as the drawing operation advances. The D. D. Felton Brush Company are manufacturing this machine and have already installed a number of them in the cotton mills.

A softening and sizing oil is made by The Arabol Mfg. Co., 100 William St., New York City. As a softener it far surpasses tallow. It is uniform and reliable, and not influenced by temperature. It is easy to handle, lets the thread divide well in the lease rods and the cylinders of the slasher remain perfectly clean, while it gives a smooth finish to the warps.

Where to Get Good Ideas.

EDITOR COTTON:

I have been much interested in the prize contests on advertisements which you have been running, and at this time, while you are having this subject discussed, I wish to submit the following article which originally appeared in the SOUTHERN ENGINEER a number of years ago:

"There are comparatively few persons who do not know the educational value of the advertising pages of trade papers and magazines. Many persons pick up useful ideas and suggestions from advertisements, yet they are wholly unconscious of the source of their new ideas and the improvements which result from them. Such persons peruse the advertising sections of their papers as carefully as they do the reading pages, and doubtless lay the paper aside with no idea of having obtained any information worth mentioning from it.

"Nevertheless, these same men who apparently get nothing out of the "ads" for immediate use, are the ones who are always ready with ideas when anything happens, when new conditions are to be provided for, machines or tools needed for making improvements. They are ready, responsive and always Johnny-on-the-spot. It is only by careful observation and analysis that we can discover how these fellows get their advantage over many others just as conscientious and reliable as they are but far less prolific of helpful suggestions.

"At a recent meeting of chief engineers one engineer said if he had known of a certain instrument a year ago he could have secured a 10 or 15 per cent increase in his salary on the first of January last. There is no good reason for this failure to obtain a higher salary, as the instrument was advertised for three years, and during most of that time the advertisements appeared in the three papers which the engineer received and read (?) regularly.

"Time spent in carefully looking over the monthly announcements of manufacturers might well be considered a duty to one's self and the equivalent of a good investment. There is no telling when some valuable idea will be obtained. It may mean the reading of "ads" for six months, and then again, it may come next month. The accumulation of knowledge cannot be measured, and as long as everything runs alright and the management makes no new demands, there will be little to indicate that the careful reader is any wiser than the hit-or-miss (principally miss) fellow. But when one is obliged to step out of the well beaten path, the advantage of a good stock of ideas to draw on is seen and it is a great advantage, too."

C. H. (Mass.)

"Waterproof Graphite Grease" is the title of a new 16 page booklet gotten out by the Joseph Dixon Crucible Company, Jersey City, N. J. This little book explains in a concise and clear way how many difficult lubricating problems have been overcome. It also deals with the care and up-keep of heavy, slow-moving machinery and parts that are exposed to unusual wear. Some of the subjects treated are lubrication of elevator plungers, the best way to handle wire rope, open gearing, dredging machinery, and rolling mill lubrication, the lubrication of sugar rolls, pulp and paper machinery. A copy of this booklet will be sent to anyone who is interested.

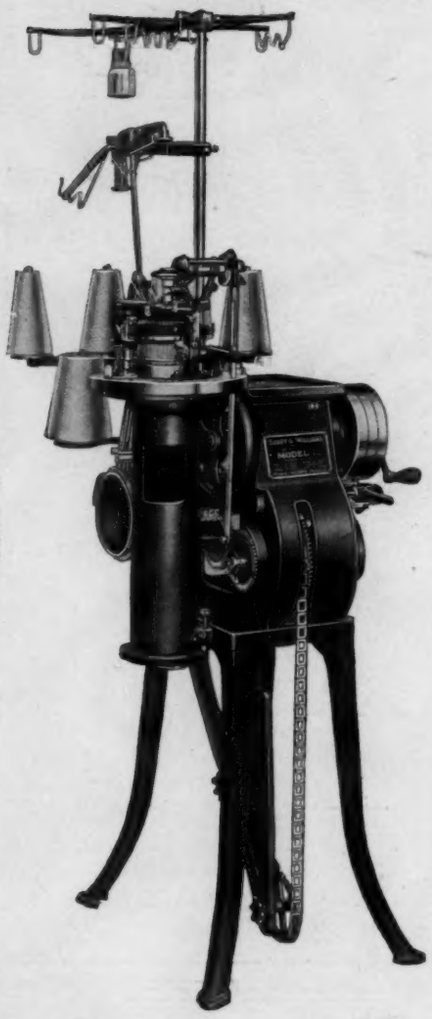
KNITTING SECTION

The attention of all Manufacturers of

WOMEN'S HOSE

is invited to our new

Fashioned Welt Machine MODEL K



This machine produces women's hose with an inturned knitted welt similar to that produced on full fashioned machines. The machine has all the features of our other models—each stocking being dropped from the machine complete, except for the looping of the toe. It is fitted with five yarn changing fingers, inserts an "anti-run-back" course, and, the welt being knitted on the machine, has all the elasticity of the fabric and may be made as wide as desired.

Write for samples and further information

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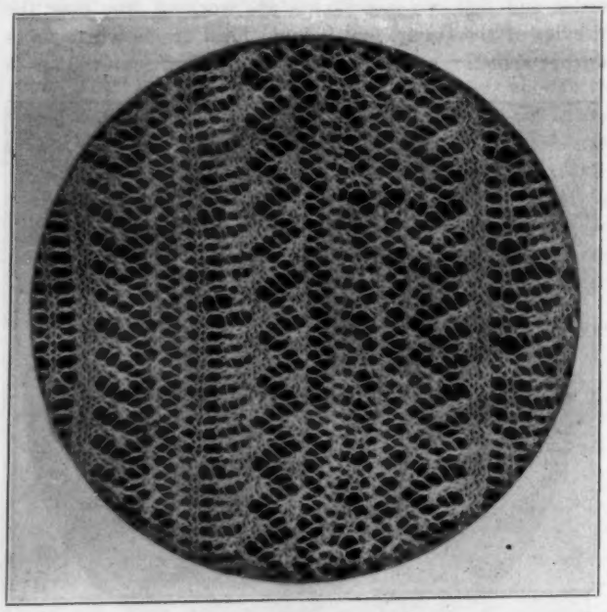
CHICAGO

The Manufacture of Lace Underwear.

BY WILLIAM DAVIS, M. A.

In the lower priced fabrics it is usual to economize in the matter of patterns and cards used for lace tops on the garments, and simpler designs are forthcoming than is the case with the more expensive varieties. It has been seen that the arrow top of the design, although giving a most elegant finish to the pattern, yet lends itself to a very large number of cards and requires proportionately greater attention. The reason is that the arrow part only occurs once in the entire pattern and the cards for the ground require to be cut many times over till the arrow portion is reached. Very many articles in cotton and



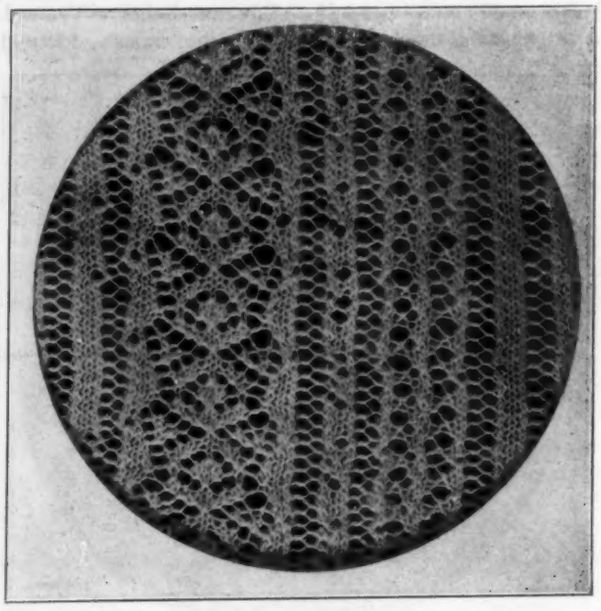
FABRIC A.

cotton and wool mixtures are made with a very much simpler lace pattern which does not require a large assortment of cards, and the machine is less liable to produce faulty stitches, and these may be frequent in the larger patterns.

Fabric A illustrates a type which is often employed where the style is rather nondescript; no special feature is discernable but only an irrigular arrangement of lace stitches with lines of a few stitches of plain stitch at small intervals. The pattern shows a large proportion of lace stitch and this is advisable in order that the distinction between the ground and lace work may be discernable. Fabric B has the same general characteristics except that the features are more pronounced, the irregular undefined portion alternating with a part of a more diamond character. The width of this pattern in the fabric is just over two inches, one inch diamond and a similar width of irregular lace stitch. Design B corresponds in a general way with the fabric B, the part marked S showing the diamond part and T the irregular part of the pattern. Both of those sections are suitably combined to give an attractive effect in the fabric, the two sections being divided off by two vertical rows of stitches working one and one, those parts being easily recognizable in the fabric from their free and open appearance, in fact they are almost cellular.

Design C and Fabric C also correspond and form an interesting comparison between the pattern on paper and that in the fabric. Owing to the effect of transferring the stitches, the connection is not always evident, a fact which makes it a matter of some difficulty to analyze accurately lace patterns for exact reproduction. Fabric C is rather more pronounced in its predominating features, the part S giving an interlocked species of design and the part T a simple diamond effect. The two parts are effectively separated from each other by two rows of one and one stitch; again the total width of one repeat of the pattern in the cloth is just over the two inches.

Fabric D and Design D also correspond and show a combination of irregular stitch with a more pronounced diamond pattern, the diamond being given at S and the irregular stitch at T, the division being again made by two plain rows of one and one lace stitch. An examination of the diamond will show that the design is both on paper and in fabric rather out of proportion, that is the effect shows rather "dumpy" because the design is greater in width than in length. If the fabric were made up exclusively of the diamond design this would prove a defect, but in the present instance the point is in ordinary cir-

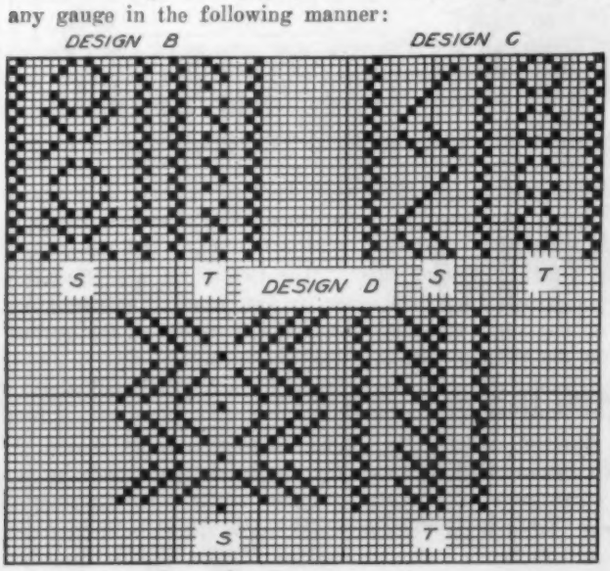


FABRIC B.

cumstances not observable owing to the way in which the vertical effects combine with the horizontal.

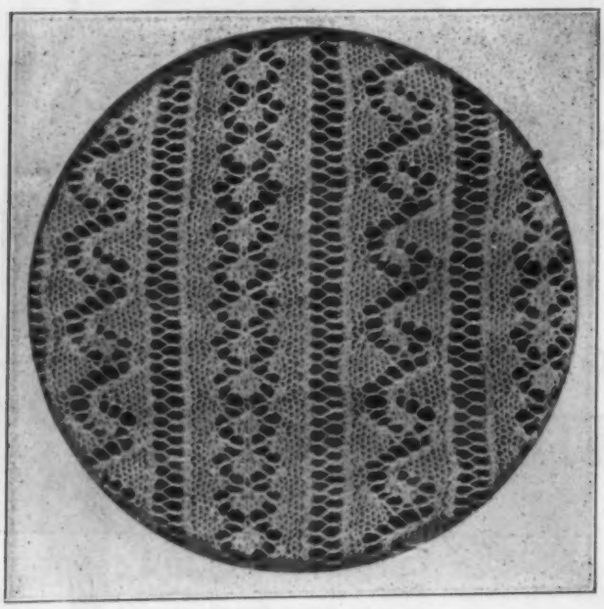
An examination of the given designs will show that they can be produced on a very small number of cards as no edging is used. Design B repeats itself on 12 courses; Design C and D on a similar number, so that a set of 12 cards is all that is absolutely necessary in order to proceed with the designs. It may be short-sighteed policy to cut the minimum number because they may not work very conveniently with the cylinder or barrel and if a larger

number be made the wear and tear of the cards is distributed over a larger number and the set will remain in accurate work for a longer period. It is a matter of some importance to know before hand the width and length of any design, so that the pattern may occupy the requisite width and length in the garment which is readily done for any gauge in the following manner:



Example: Find the width of a pattern to 48 points in width on a 30-gauge frame with two needles arranged for each point.

In the 30-gauge there are 30 times 2 = 60 needles on 3 inches = 20 needles per inch. A 48-point design will extend over twice the number of frame needles, namely, 96, and



FABRIC C.

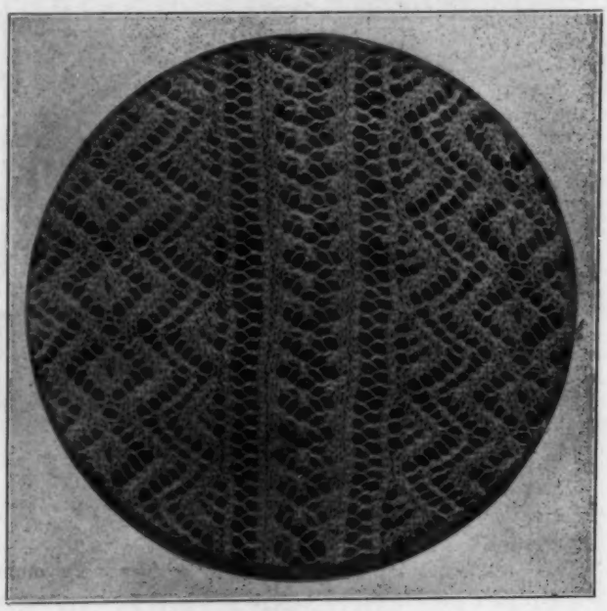
this number divided by 20 = 4.8 inches which is the width.

Example 2: Find the width of a pattern set out in 32 points on a 36 gage frame, two frame needles for every lace point.

A 36 gage = 36 times 2 = 72 needles on 3 inches = 24 per inch. A 32 point design extends over 64 needles which number divided by 24 gives 3.6 inches as the width of pattern at the needle ends.

Example 3: Find the width of a pattern set out on 28 points and worked on a 42 gage frame. 42 times 2 = 84 needles on 3 inches = 28 per inch. 28 points give 56 needles in the pattern which divided by 28 gives a pattern 2 inches wide.

The lace designs worked on this machine may be regarded as more satisfactory than those made on the circular frame, because the position of the succeeding patterns does not vary and there is much greater scope, in fact, unlimited scope for pattern origination. The mode of bringing about the lace stitch is more straightforward and does not impose such an unnatural strain on the needles. As the gage of the machine is usually fine, the designer has to give the adjustment of the machine very special consideration and requires to subject the points and needles to careful examination to see that the springs are in good order and that the lace points are working true over the needles of the frame, and it is an ideal frame where flaws do not sometimes appear. The most competent worker is



FABRIC D.

generally selected for this machine and one who understands the mechanism and can do adjustments for himself. The firm is very fortunate if, as it sometimes happens, a workman is secured who takes a personal liking to the work and busies himself in the cutting of cards and the bringing out of new designs and it is for the assistance of such stalwarts to the knit goods trade that these notes on designing have been compiled.

The nature of the materials used for lace garments depends very much on a matter of price. The illustrations given have been manufactured in a fine fibred woolen yarn where the surface fibre is suppressed as much as possible in order to give the clearest vision to the design. Such designs never have much look when worked in a coarse yarn, especially if there is a great deal of projecting surface material, for this more than anything else serves to obscure the pattern. Fine round cotton and mercerized cotton yarns give excellent effects and show up the designs to perfection, but as the articles are for underwear, cotton and mercerized cotton are not considered the most suitable on account of the reduced hygroscopic property of this

material and of its coldness to the touch. A compromise is often effected by employing a yarn made of a cotton and wool mixed in the fibre, the wool being the finest obtainable and short in staple. A very suitable proportion is 50 per cent of each well mixed and "scribbled" together, and this combination gives good effects in the lace patterns. Around the extreme edge of the lace top the finishing border is generally sewn on by hand with a lace pattern bought and made of a brilliant mercerized cotton or in the case of expensive garments, pure silk.

When the lace fabrics have to be used for hose the matter of materials in quite another problem, cotton and cotton and wool forming the bulk of the materials along with spun silk. In employing silk of fine fibre some modification often requires to be made in the matter of design, owing to the very pronounced effect produced by the lace points formed by the transference of the loops. This effect may be caused, especially in the case of fine silk yarns where it is difficult to obtain a frame fine enough to suit the diameter, with the result that the fabric has a somewhat lean appearance to start with and when the lace design is made, the openings in the work are all the more conspicuous. To minimize this tendency, the designs should be modified to have fewer lace points in the same area and to keep the yarn as stout as possible for the gauge.

Scientific Methods in the Underwear Mill.

Sometimes we hear it remarked that as manufacturers we are students of economics, and there is a great deal said on political economy in certain directions, and no doubt a great deal of study along these lines in all directions. The writer of this article does not want to set himself up as an expert on either political economy or economics, neither of these sciences will be claimed, but rather aimed at. What we wish to do is to present some common sense ideas in connection with the subject under consideration; cooperation among underwear manufacturers.

Science means truth on the subject. What was science fifty or a hundred years ago is not, by any means, science or truth today along any line. The question, then, should ever be with the manufacturers of underwear as well as in other lines, "Am I scientific in the management and operation of my plant?" Remember science is up-to-date methods, not what was.

At the present many mills make certain styles because some other mill makes them. If the salesman sees a competitor's garment which is not on the line of the mill he sells for, he at once thinks it should be on the line. The mill man knows that it is not to his advantage to be continually adding numbers to the line, but he does not wish to hinder the salesman or to throw cold water on his enthusiasm for larger and easy sales. There will be so many more dozens added to the production and that, you know, is always a temptation. Common sense should step in and say, "Enter not into temptation," for the simple reason that the dozens, or cases that the new number is supposed to bring, in the way of sales, as a rule never materialize, and in the cost finding there are many things which do not enter, or, in fact, are almost impossible to arrive at when a wide range is produced.

*S. M. Peterson in the Canadian Textile Journal.

For instance, there is another yarn, or perhaps two or three, which will have to be purchased and kept on hand and kept track of thereby increasing the clerical end of it, which will cause addition to the overhead charge, multiplying to confusion the endless varieties of supplies to be ordered and kept on hand, and increasing the already difficult task of cost accounting. For instance, in a mill making only one style the cost accounting is easy and accurate, whereas for every style added the cost accounting is complicated more and more until a point is reached where we have no hesitancy in saying that an absolutely correct answer would be a practical impossibility.

As an illustration, suppose that after the yarn is bought, another yarn or more has to be added and kept track of to meet the sales. The change made in the knitting department cuts down the production to a very material extent, for a change of yarn would have to be made at the winding and then when the change of yarn is made at the kitting machine the stitch, as a rule, has to be changed to suit the different garment or fabric to be knit. This very often means imperfect work to quite an extent, at least causing a loss which would not be sustained had the machine been allowed to run on the old style week in and week out.

Then there is the increased possibility of getting the yarn mixed on the machines and thus causing bad cloth, cloth which sometimes might mean even a total loss. The more mixed the production, the more stoppages occur, which means a proportionate loss in production, and we have been in mills where changes in the knitting design had to be made every day, not on one machine but on many.

Another leak which might be incalculable is the dissatisfaction to the help, especially if they are on piece work. Sometimes they might not find so much fault to the overseer, but simply leave should they find necessary the continual changing of yarn on the machines, and lose the time waiting for the machine fixer to set the stitch and get the machine in proper running order. This makes them discouraged and they are continually coming and going, which means more loss in production and an increase in the percentage of imperfect work by having beginners to teach.

The difficulty produced by the increase of variety does not end there, but follows all the way through the mill until the goods are billed out to the customer. An increased cost of production from the dye house because of a greater requirement in the equipment in order to put the work through, also an increase in the variety of chemicals used, some of which, having to be bought in smaller quantities, would cost more, and also cause an increase in the overhead charges, and increasing the possibilities of bad work. For an illustration, the writer had the experience of having some bleached goods come to the cutting department full of small black specks or spots, and on investigation it was found that the man who had weighed out some black dye for a batch of goods to be dyed had let some of the black powder blow onto a truck full of bleached cloth, and it being wet caused the small particles of dye to dissolve, each speck making a little spot.

Here is another example of the difficulties of accurate cost finding where such a variety of goods is made, in figuring the cost of the goods such things or losses are not figured as a rule, and, in fact, never could be accurately

ascertained, but would show up as a loss at the end of the year, and the figured cost of goods as against the actual cost of production would never agree.

Someone might say, "But a man so stupid as the one who let the dye blow around like that should not be kept on." Let us remember that we stated at the commencement of this article that the writer did not want to set himself up as an expert on economics, but that he did wish to apply common sense in connection with the subject under consideration, and this common sense does tell us that the more varied and complicated the product of a mill is, in the exact proportion such difficulties are increased, and if it is not one thing, it is another.

We could dwell at greater length and consider more thoroughly the difficulties in the knitting room, but suffice it to say that the larger the variety of cloth to be knit the larger the variety of equipment required, some of which would have to stand idle because of a lack of call for the goods made on such machines. This also materially increases the floor space required. This increase in equipment and floor space the writer has seen in mills to at least 33⅓ per cent.

We will pass on to the cutting department, and here we find that the greater variety of cloth to cut requires just that much more floor space in order to carry the working stock of cloth, and it is next to impossible to always have the right amount of body cloth and sleeve cloth come through at the same time, thereby causing a hold-up in production. To keep the various styles cut up all the time is a thing never accomplished. There is always some body cloth waiting for sleeve cloth and vice versa. Then the pieces that accumulate, as a rule, are never properly taken care of because of the stoppages of a style, if not coming through again for some time. In this way these pieces are very apt to be thrown into the waste. This piece proposition we will give further consideration at some future time.

The goods when cut and ready for the seaming department cause the same confusion as in the previous operations. For illustration, there may be different colors of goods, and the sewing machine operators would have to go and get another color of thread every time they change from one style to another, and when they are chasing around for thread and other supplies they are not producing anything. There may be a few dozen of one color then a few dozen of another color, and the girls may at times, for this very reason, have a number of spools or cones of thread at their machines of different colors, causing more or less waste besides the extra money tied up.

Then there is the difficulty and the annoyance of getting the seaming waste mixed, and getting up and going after the different kinds of threads, facing, stay buttons, and so forth. We surely need not be very scientific to see the awful waste in the earning capacity or in the producing ability of all operatives.

Then there is very apt to be a mistake of putting the wrong trimmings on a few dozens, which either has to be ripped off and most generally has to be done by some one paid by the day, as the operator in question who made the mistake may not always be to blame for the mistake, and besides she may have so much work ahead that the production would be seriously retarded by having the operator stop and bother with it.

Then there is a material loss in the production, which is impossible to truly estimate, in changing from one style or cut of goods to another. Perhaps one time it would be a few dozen of men's combinations to be followed by a few dozen of misses' drop seat suits, these in their turn to be followed by a few dozen of ladies' vests, and again by a few dozen of pants and back again to some more of men's suits, or even something else. The writer heard an operator say one morning, "We have succotash to-day" a little of each and not much of anything.

The variety of the different kinds of trimmings necessary to keep on hand, some of which there would in some instances be no call for at intervals of weeks, causing waste of time and energy, also increasing the overhead charges because of the necessarily larger amount of money tied up with occasional money losses.

The writer took charge of a finishing room some ten years ago, and for weeks was caused great annoyance by cases, not two or three but many of them, all full of various kinds of trimmings with more colors than in the rainbow. It was, indeed, a very pretty display, but on the other hand a very sorry looking lot of stuff. These cases were taking up valuable room in the finishing department and the suggestion was made to find, if possible, a buyer, and it was found that a discontinuation of certain lines had caused this supply of trimmings to be left over, which is another proof of the non-scientific method of such a profusion of styles in the manufacture of underwear.

When the goods are finished they are ready for pressing, inspecting, final inspection, and boxing. We cannot assume the goods being finished, that the trouble is at an end. Who is it with any experience with a profusion of styles who has not seen the conglomeration of styles and sizes, not only of one kind of men's, ladies' and children's, but everything to be handled and wadded over and over again on the folding tables.

A dozen may have a second in it causing an odd, and this process continues until there would be heaps on the tables and some day all hands must get on deck to straighten up things. Time consumed, time lost, time entirely wasted, entirely non-productive time.

The goods, when ready to be boxed, have to have the proper box for style and size, and here again we are confronted with another not very small problem. How to keep all the different varieties and sizes of boxes on hand so that when this mixed production comes through, the goods will not have to lie around in trucks waiting for boxes after having been inspected. To avoid this a quantity of every size of box must be kept on hand, increasing the overhead charges because of the storage room required and the extra outlay of money to carry the boxes.

Loss of production is to be considered, too, because of the multitudious varieties and sizes of folds, also changes for boxes and labels. A few of each kind to be boxed and labeled, causes running to and fro for boxes and labels, and also increases the liability of mistakes, besides increasing the clerical end of it in the necessity for keeping track of stock so as not to run out, causing an increase in the annoyance of delay of delivery of stock ordered and so forth. The answer is plain—more system.

Articles and letters from practical knitters are solicited for this department, and are paid for when published.

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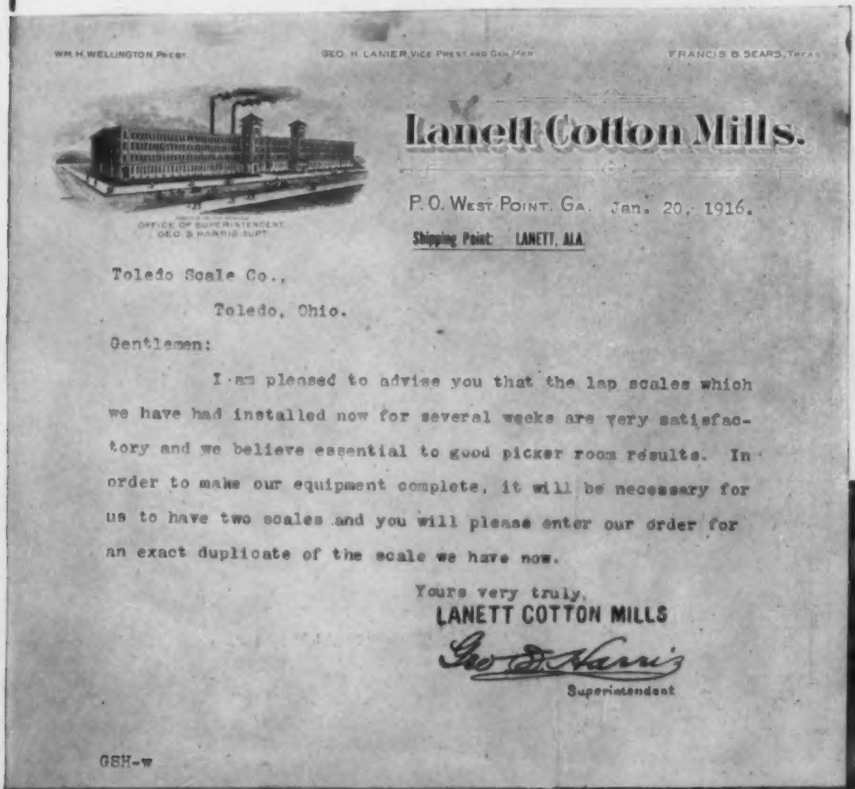

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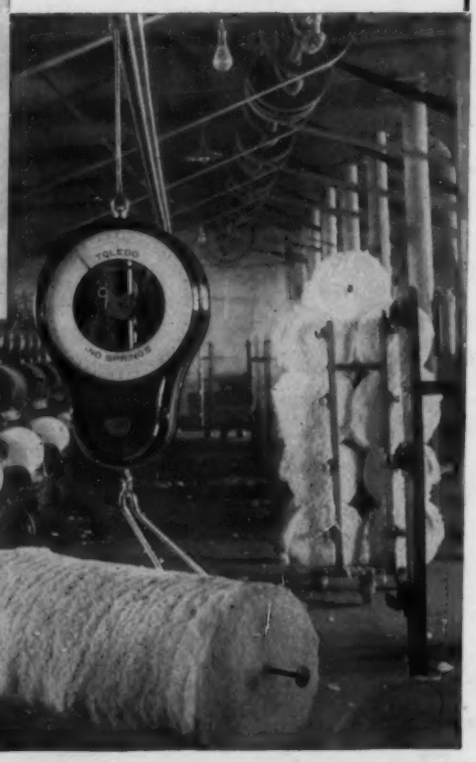

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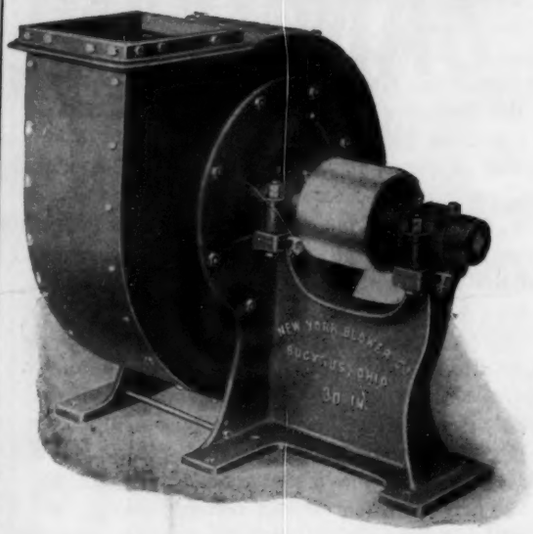

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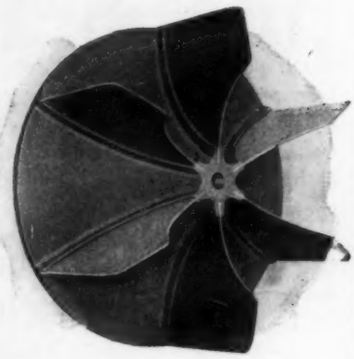

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Speed of Circular Knitting Machines.

The computation of the speed of circular frames and machines and its relation to production is by no means the simple mathematical problem it appears. Evidently, from first principles, the number of revolutions a machine makes per minute does not decide the production, as it is the number of stitches made per minute, or the linear needle or cam velocity, which gives the comparative productive capacity of a machine. Moreover, it is due to the limitation of needle or cam velocity that the maximum speed of a machine is decided.

Hence, the first point to be noticed is that the production of a circular frame or machine is due to the following causes:

1.—Revolutions per minute of needles or cylinder.

2.—Diameter of needle cylinder.

3.—Number of knitting feeders.

Production has another deciding factor, *viz.*, gauge of machine or number of courses per inch of fabric, as it is evident that a coarse machine making 12 courses per inch will give a greater production either in weight or length than a fine machine making 24 courses per inch of fabric, but this cannot be said to be due to any virtue or defection of speed and thus will not be brought into question.

The speed of a machine depends to a very large extent on the type of machine and also to a considerable degree the build or definition of the machine, but it also depends to an extent often not recognized, on the class of yarn used in the knitting.

It is by no means an uncommon occurrence in a hosiery factory to find a mechanic held up when a different class of yarn is put on to a machine that has hitherto been working perfectly, but the last thing that a hosiery manufacturer would consent to would be a reduction of the speed, and yet in many cases this is the only resort to ensure proper working. Take, for instance, an up-to-date loop wheel frame, having a 20-inch cylinder, which has been running perfectly on cotton at 60 revolutions of the needle cylinder per minute, or a needle velocity of 315 feet per minute. Put this machine on a medium quality of worsted or cashmere at this speed, and the best machine will not be able to get off presentable fabric. Why is this? Because every class of yarn has a different breaking strain, and that strain is proportional to speed. Hence, the speed must be reduced to something like 75 per cent of the cotton speed, i.e., about 45 revolutions per minute of a 20 inch cylinder.

Here, then, is another deciding factor in speed—the breaking strain of the yarn, and this varies so much, that for large orders it will pay the manufacturer to run his machine at a speed proportional to the breaking strain of the yarn.

It is interesting to compare the speed of this type of machine with the French circular frame with sinker wheels. The speed of a frame of the latter type which would throw off a similar diameter of fabric to a 20 inch loop wheel frame, would be something like 20 to 23 revolutions per minute, but whereas the loop wheel would require a lot of slowing down to take tender or soft spun yarns, the sinker wheel frame would work them up at the speed mentioned with ease. Still it is noteworthy of observance that the loop wheel is a much faster machine than the sinker wheel frame.

With all machines it should be perfectly understood that the revolutions of the driving pulley do not always coincide with the revolutions of the knitting head or cam cylinder. In some cases, however, the driving gear is so arranged that the speed of the driving pulley is constant for all sizes of heads, and this is true of most types of American loop wheel frames.

From the foregoing remarks it will be seen that in reality if a circular frame is to show its versatility to knit up all classes of yarns, it should be fitted with a speed cone drive, yet even to mention such a thing would be rank heresy, for it would indicate that it was not possible to drive the machine at top speed on all yarns, a point that would be repugnant to machine builder and manufacturer alike, although *perfectly true.*

It is common practice to run the driving pulley of an automatic knitting machine the same speed as the needle or cam cylinder, and, hence, the revolutions of the driving pulley usually gives the number of courses per minute. On the later types of machines, however, which possess revolving needle cylinders, it will often be found that the high speed of the drive is often effected through gearing, with the result that the speed of the driving wheel must be calculated on the revolutions of the cylinder during the second speed which is usually obtained direct. If this point is not observed when fixing the machine, the knitter will be surprised to find the machine capering round at the gentle speed of 380 to 400 revolutions per minute instead of the 270 to 300 limit. The same precautions as previously given hold good with automatic knitting machines, as a machine of the improved type may be driven quite safely on cotton yarns of a fair quality at 300 revolutions per minute, but if cashmere is to be knitted up, it is far better to stick to the 270 mark, as increased speed in this case will not probably result in increased production.

Rib top machines cannot, of course, be run at such a high speed as the plain automatic knitting machines, more especially if they make an automatic welt, slack course, and separating course, and a speed 120 to 160 revolutions per minute must be considered satisfactory, unless a two-speed gear is employed, in which case the 1 and 1 rib can be made up to 200 to 220 revolutions per minute, and the welt and other changes effected at just over half speed.—*Hosiery Trade Journal.*

Don't feel sorry for yourself. If you do you'll be the only one who is sorry and its pitiful in a big world like this to be in such a minority. You're not having a hard time; very few people are. Do people ask you fool questions and write apparently unreasonable letters and otherwise take up your time? You're in luck; if folks were not like that, its ten to one, your salary would stop, for your company wouldn't need you. The world joins with you when you laugh; when you are mournful, you are respectfully referred to the nearest officer.

"Considering the establishment of a domestic dye industry from the standpoint of 'national equipment,' I don't mean 'national preparedness,'" said Dr. Hesse, "the equipment might be of great value in event of hostilities. It could be converted for the manufacture of explosives, and we would not then be dependent on foreign nations for high explosives."

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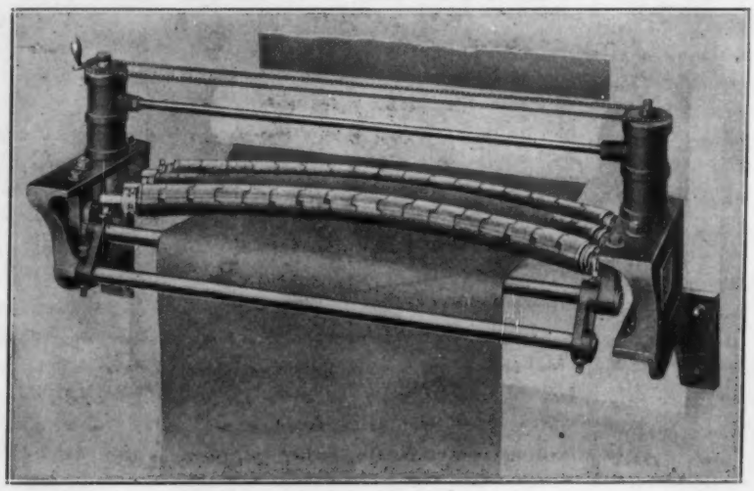

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The Knit Goods Market.

Mills are easily in control of the knit goods market, and most dealers are taking that view. It is evident, however, that manufacturers are showing no disposition to take advantage of a situation which clearly is in their favor. This was revealed at a recent meeting of Philadelphia hosiery operators, at which there was a free comparison of price. A Frankford manufacturer expressed amazement when he learned of advances that had been made by a competitor, and confessed that he was getting too little money.

The manufacturer who presented his new schedule of prices on children's hosiery, showing advances ranging from 12½ to 20 cents a dozen, assured his rival that he was looking for all the business his several mills could take care of; that he was aware of the trade's eagerness for merchandise and felt quite certain that price was less a consideration than guarantee of delivery. The upshot was that the next day higher quotations went out from the Frankford mill, where the admission was made that profits had dropped, notwithstanding the greater volume of business.

It was deduced from an exchange of views at the meeting that the seeming weakness on the part of some mills to get prices commensurate with higher costs of supplies and operation was due to the executives sticking too close to their desks, gathering the bulk of their information from supply salesmen and visiting buyers, instead of "nosing" around and getting a view of the market not confined to a range of vision circumscribed by mill environment. They don't seem to know what is going on and are missing some of the opportunities.

Prices are steadily stiffening, but in some quarters, probably for the reasons stated, are too low, and constitute a detriment to market stability. The demand for knit goods warrants something more nearly approaching price uniformity. An important Philadelphia jobber, handling the production of several Southern mills, probably voices the views of most distributors when he says that considerable merchandise that has been sold will not be delivered. Mills, he believes, are doing the best they can to meet the unusual situation, but the best is not going to leave them out. This merchant forsees for the retail trade the same difficulty that is being experienced by wholesale distributors in the matter of getting delivery.

The fear that there is going to be a shortage of merchandise for fall is reflected in unusually heavy buying by retail merchants. Jobbers say that never have they had so much business from retailers so far in advance. The latter will be disappointed in some of their spring deliveries, and jobbers believe the fall situation will show little if any improvement.

Woolen hosiery and gloves are strong, at advancing prices, more particularly lines selling at 25 cents. In fact there is more than average pressure for the lower grade merchandise through the whole range, and while the country is on an easy money basis and tending toward a higher order of living, 10 cent and two-for-a-quarter hosiery is as popular as ever. But at these prices the consumer is not getting the value of a year ago. Mills, however, are catering to the dealer; not to the consumer, and try as they may, it seems impossible, except in rare instances, to persuade the retail merchant to eliminate the fixed price. It is apparent that the dealer feels he is following the line of least resistance in adapting himself to fluctuations in quality rather than in price.

Some jobbers are taking virtually no new business in artificial silk hosiery, and most of them are begging for deliveries on old contracts. Yet there has been some indifference toward mercerized hosiery, an element in the trade hoping against hope to get the lustrous fibre. Mills are not banking on much improvement in the fibre silk situation, and there is a disposition to force mercerized so long as the silk market maintains its present strength.

Underwear manufacturers have had less trouble in making deliveries than have hosiery mills. While shipments in many instances are being unavoidably withheld, much stuff sold for May delivery already is going forward. Hosierymen are handicapped by the dye scarcity, which does not affect underwear directly. Both branches of the trade are suffering from a shortage of needles, which may be relieved somewhat in a few months if plans for forming a company to manufacture needles shall mature. It is stated that nearly one-half of the capital required has been subscribed, and the movement is receiving considerable support. Capital is coming from knit goods manufacturers in various sections, in response to a form letter outlining the situation and showing the necessity for prompt action if the shutting down of considerable machinery because of lack of needles is to be averted. C. Walker Jones, of the Becker Needle Company, is very much in demand among knitters, but few of them are having their wants supplied.

A steady improvement in the outlook for blacks is noted. Sulphur black is coming on the market, but much of it, while accepted for meeting an emergency, would ordinarily receive no consideration. The Stanley Aniline and Chemical Company, office in Philadelphia, states that its phenol plant, at Lock Haven, Pa., may reasonably be expected to be in operation between May 15 and25, and that in 30 days later the company will commence its deliveries of direct black under contract. The company is taking tentative contracts for 1917 at a price prorated on 95 cents, provision being made for higher acid costs.

The National Aniline and Chemical Company is writing contracts for three years commencing January 1, 1917. The terms were seriously objected to by many manufacturers, but it is stated by an official of the company that already its three-year contracts call for 50 per cent more dyes for 1917 than it contracted for for delivery this year. It is understood that the capacity of the plant is to be doubled to take care of the business provided for by the three-year contracts.

Among manufacturers of knit goods the sweater mills are hardest hit by the uncertainty as to dyes. They also are confronted with the complex problem offered by silk and worsted, and much doubt is held as to the wisdom of making contracts for either supplies or the delivery of merchandise for a longer period than three months. A manufacturer regarded as one of the shrewdest says he will confine his gamble with the market to 90 days. "If our salesmen turn in substantial business we will then take a shy at another similar period. No commitments for loger than three months will be our policy in the present market," he says.

One other sweater manufacturer, who was caught short of dyes and sweater yarns this season, refuses to discuss

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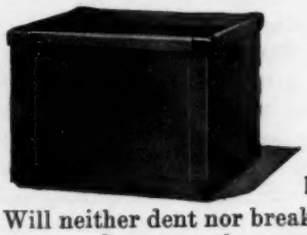

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plans for next year. His idea is that the only safety for sweater manufacturers is in creating a famine, which would mean spot business under contract. At any rate, he says, "Since we must engage for three years supplies of dyes, to be sure of getting what we need, why not exact binding contracts from the jobbing trade? Either that or spot."

Among the Knitting Mills.

Southern knitters still continue to be pushed to the limit with orders and many enlargements are under way and a number of new plants being considered. Conditions in other sections of the country are similarly active and it is only in certain specialty lines that there is any sign of slackness.

These prosperous conditions will doubtless be reflected in Philadelphia this month at the annual convention of the National Association of Hosiery and Underwear Manufacturers by the largest and most enthusiastic attendance for several years past. The program is replete with interesting addresses and Secretary Carter has done his part toward making the meeting its usual success. Undoubtedly the feeling of optimism now so prevalent will make this gathering score the high-water mark for attendance and joviality. "Happy Family" members take notice!

Additions and improvements among the knitting mills are noted as follows:

The Acme Hosiery Mills, Asheboro, N. C., will shortly install new machinery, 25 to 50 new machines being planned.

An addition to the Carolina Mills Hosiery Co., Marion, S. C., is being talked of by the owners.

The Walker County Hosiery Mills, LaFayette, Ga., has recently installed new dyeing machinery. A new addition to the mill has also just been completed.

The Pasquotank Hosiery Co., Elizabeth City, N. C., will add knitting machines within a few months; they now have 92 knitters.

The Virgilina (Va.) Hosiery Mills are contemplating the addition of new knitting machines.

The Southland Knitting Mills, Macon, Georgia, have let contracts for new finishing machinery, and will erect a new addition to the mill.

R. J. Morriston, of Cherryville, N. C., is considering the establishment of a plant for manufacturing knit goods. At Lancaster, S. C., Jno. D. Wylie and W. M. Stearns are planning to establish a mill for the manufacture of men's and children's underwear, with about $25,000 capital. It is planned to operate an equipment of about 30 knitting machines. The parties interested are now in the market for machinery and necessary equipment.

W. B. Davis & Son of Chattanooga, Tenn., have determined details for their branch mill at Attalla, Ala. They will build a one-story 150 x 160-foot brick mill structure costing $8,000, and install machinery for a daily capacity of 1,000 dozen pairs of hose, 200 operatives to be employed. The equipment will include 100 knitting machines, electric power drive, etc. Contract for erecting the building has been awarded to the Rodgers Construction Co. of Chattanooga.

An investment of $300,000 for an additional building and machinery has been decided upon by the Magnet Knitting Mills, Clinton, Tenn. J. D. Allsup & Co. of Chattanooga are the architects in charge, and the new building will be 250 feet by 75 feet, of reinforced concrete construction. 200 machines to mannufacture seamless hosiery will be installed. Electric power will be used.

The Merck-Hetrick Manufacturing Co., Gainesville, Ga., contemplates increasing its plant, which is now being operated night and day. W. F. Hetrick is secretary and manager.

It is stated that the Penfield (Ga.) Hosiery Mills will established a plant in place of one that was burned with loss of about $20,000 recently and reported in these columns last month.

The Holston Manufacturing Co., at Morristown, Tenn., recently shipped a sample order of 11,000 dozen hose to dealers in Hamilton, Ontario. It is quite probable that it will be followed by a standing order for much larger shipments in the near future. The mill is now running full time with a special night shift of ribbers. . The daily output with 160 operatives is 900 dozen and this is to be increased in the near future to 1,000 dozen per day. In fact, the increase would have been made several weeks ago but for the unfavorable dye situation, which is now being relieved to some extent by American manufacturers. The dye plant at Lenoir City is running day and night to handle the output of the two mills.

A number of new machines will be installed in the near future and necessary additions made to the force in order to reach the desired volume of 1,000 dozens per day.

The Pawtucket Hosiery Company, Providence, R. I., increased its production fully 25 per cent by the installation of additional machinery recently. Owing to contracts on hand, which will keep the plant busy many months, orders of considerable size have been rejected.

The proposed addition to the plant of the Brown Knitting Co., Warsaw, N. Y., is still under consideration but no information regarding it is being given out. An early report stated that the building would be four stories, 60 x 117 feet, to provide for an approximate doubling of capacity and the addition of a line of ribbed goods.

Plans have been prepared for a four-story addition to the plant of the Superior Manufacturing Co., Hoosick Falls, N. Y. The building will be of brick construction and cost about $30,000. Women's and children's cotton ribbed underwear and union suits, and worsted sweater coats are manufactured.

The Best Knitting Mills at Hickory, N. C., will add some new machinery.

The Collier Manufacturing Co., at Barnesville, Ga., manufacturers of women's cotton ribbed underwear, is reported to be considering the purchase of additional machinery which will increase the knitting capacity 15 per cent and the finishing capacity 30 per cent.

A new underwear mill may be located at Chattanooga, Tenn., according to local report, and Floyd M. Murphy, general manager and buyer of the Chickamauga Knitting Mills, is said to be considering the establishment of such a plant.

Murray Brown of the Goodall Dry Goods Co., Birmingham, Ala., is interested in the establishment of an underwear mill in Alabama.

It is reported that consideration is being given to the establishment of a knitting mill at Knoxville, Tenn., by Col. L. D. Tyson, president of the Knoxville Cotton Mills and the Knoxville Spinning Co.